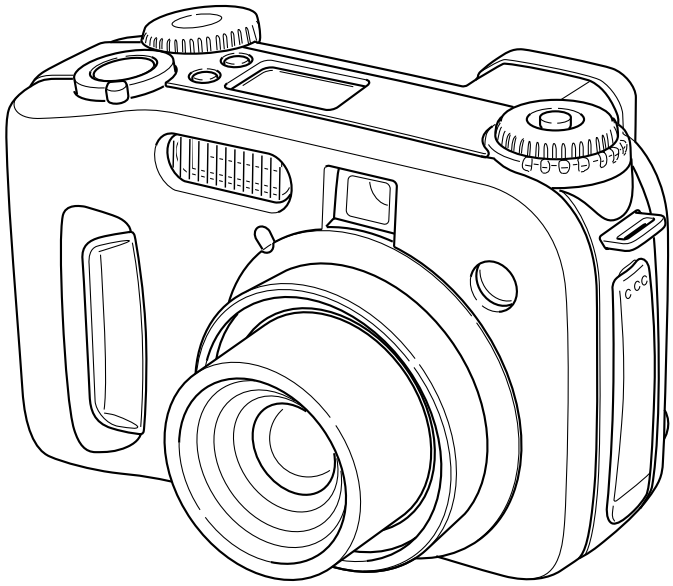
SERVICE MANUAL & PARTS LIST (without price)

QV-4000

(KX-821D)

SEP. 2001



Ver. 2 NOV. / 2002

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CASIO®

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SPECIFICATIONS

File Format	Still images (including panoramas): JPEG (Exif. Ver. 2.1)/TIFF, DCF standard (Design rule for Camera File system), DPOF compatible Movies: AVI (Motion JPEG)
Recording Medium	CompactFlash card (Type I/II), IBM Microdrive
Recorded Image Size	2240 x 1680 pixels, 2256 x 1504 (3 : 2) pixels, 1600 x 1200 pixels, 1280 x 960 pixels, 640 x 480 pixels

Standard Memory Capacity, Number of Image Files, Computer Output Image Size (JPEG images only)

Still					
Image size (pixels)	Quality	File size	Number of images		
			8MB memory card	64MB memory card	340MB memory card
2240 X 1680	FINE	1.8 MB	7 images	30 images	513 images
	NORMAL	1.2 MB	10 images	43 images	730 images
	ECONOMY	0.72 MB	15 images	60 images	1026 images
	TIFF	11.025 MB	1 image	5 images	87 images
2256 X 1504 (3:2)	FINE	1.6 MB	8 images	33 images	566 images
	NORMAL	1.1 MB	12 images	50 images	842 images
	ECONOMY	0.66 MB	19 images	77 images	1314 images
	TIFF	9.99 MB	1 image	5 images	97 images
1600 X 1200	FINE	0.85 MB	15 images	60 images	1026 images
	NORMAL	0.6 MB	19 images	77 images	1314 images
	ECONOMY	0.35 MB	30 images	124 images	2053 images
	TIFF	5.625 MB	2 images	10 images	171 images
1280 X 960	FINE	0.5 MB	22 images	88 images	1493 images
	NORMAL	0.35 MB	30 images	124 images	2053 images
	ECONOMY	0.2 MB	51 images	207 images	3285 images
	TIFF	3.6 MB	3 images	15 images	269 images
640 X 480	FINE	0.15 MB	77 images	311 images	4693 images
	NORMAL	0.09 MB	101 images	415 images	6571 images
	ECONOMY	0.06 MB	154 images	622 images	8213 images
	TIFF	0.9 MB	15 images	62 images	1026 images

Movie (320 x 240 pixels)	
Storage Capacity	Approximately 300 KB/second
Recording Time	30 seconds per movie

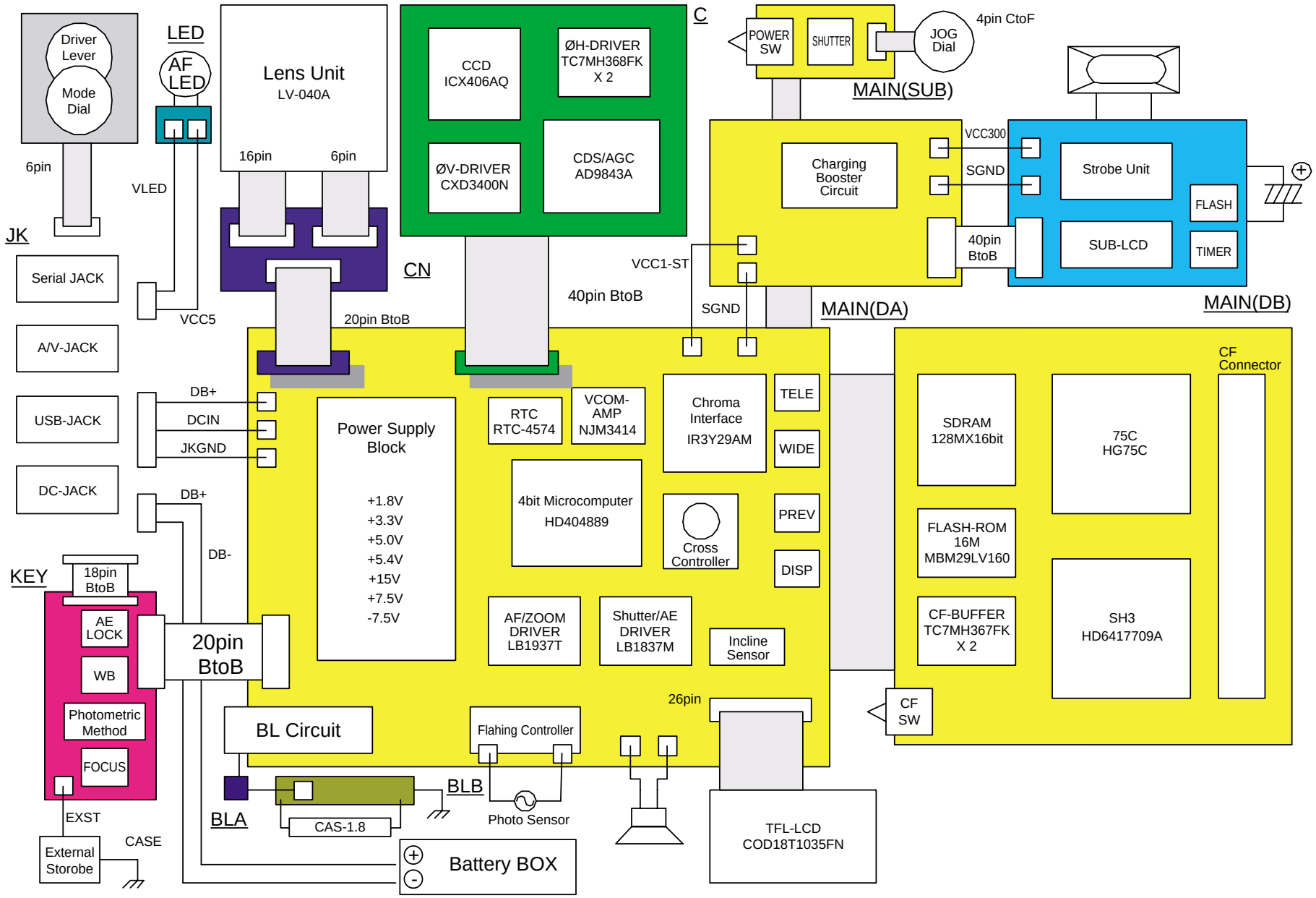
• The above figures are approximations only.

Image Deletion	Single image; all images in a folder; all images in memory (with image protection)
Imaging Element	1/1.8-inch CCD (Total Pixels: 4.13 million, Effective Pixels; 3.98 million)
Lens	F2 (W) to 2.5 (T); f = 7 (W) to 21 mm (T) (equivalent to approximately 34 (W) to 102 mm (T) for 35 mm film)
Zoom	3X optical zoom; 3.2X digital zoom (9.6X in combination with optical zoom)
Focusing	Contrast-type Multi-area Auto Focus (Spot Auto Focus Mode, Macro Mode, Infinity Mode); manual focus; focus lock
Approximate Focus Range	Normal: 30 cm to ∞ Macro: 6 cm (W)/20 cm (T) to 50 cm Manual Focus: 6 cm (W)/20 cm (T) to ∞
Exposure Control	Light Metering: Multi-pattern, center-weighted, spot by CCD Exposure: Full Auto, Program AE, Shutter priority AE, Aperture priority AE, Manual Exposure Compensation: –2EV to +2EV (1/3EV units)

<table>
<tr><td>Shutter</td><td>CCD electronic shutter; mechanical shutter, BULB, 60 to 1/1000 second</td></tr>
<tr><td>Aperture</td><td>F2.0/2.3/2.8/4.0/5.6/8.0, auto switching or manual switching</td></tr>
<tr><td>White Balance</td><td>Automatic, fixed (4 modes), manual switching</td></tr>
<tr><td>Self-timer</td><td>10 seconds, 2 seconds</td></tr>
<tr><td>Built-in Flash</td><td>Flash Modes: AUTO, ON, OFF, Red eye reduction
Flash Range: Approximately 0.5 to 3.5 meters</td></tr>
<tr><td>Recording Functions</td><td>One-shot, continuous, movie, panorama, AEB, self-timer, macro, Best Shot</td></tr>
<tr><td>Monitor</td><td>1.8" TFT, low-glare color HAST LCD (122,100 pixels, 555 x 220)</td></tr>
<tr><td>Viewfinder</td><td>LCD Monitor or optical viewfinder</td></tr>
<tr><td>Clock</td><td>Built-in quartz digital timepiece for time and date recording and storage with image data; auto calendar up to 2049</td></tr>
<tr><td>Input/Output Terminals</td><td>Remote shutter release terminal; AC adaptor terminal; USB port (MINI-B); VIDEO OUT (NTSC/PAL)</td></tr>
<tr><td>Power Supply</td><td>Four AA-size alkaline or lithium batteries
Four AA-size nickel-metal hydride rechargeable batteries (NP-H3)
AC adaptor (AD-C620)
AC adaptor charger (BC-3HA)</td></tr>
<tr><td>Battery Life</td><td>The values noted below indicate the number of hours before battery failure under normal operating temperature (25 °C). These values are for reference only, and do not guarantee that any particular set of batteries actually will provide the service life indicated. Low temperatures shorten battery life.
<table>
<tr><th>Type of Operation</th><th>Continuous Playback</th><th>Continuous Recording</th></tr>
<tr><td>AA-size Alkaline Batteries LR6</td><td>170 minutes</td><td>90 minutes (540 shots)</td></tr>
<tr><td>AA-size Lithium Batteries FR6</td><td>320 minutes</td><td>180 minutes (1,130 shots)</td></tr>
<tr><td>AA-size Ni-MH Batteries NP-H3</td><td>180 minutes</td><td>100 minutes (600 shots)</td></tr>
</table>
• The above figures are approximations only.
• The above guidelines are based on the following battery types:
Alkaline: MX1500 (AA) DURACELL ULTRA
Lithium: Energizer
• Battery life varies with brand.
Continuous recording values show the number of shots without using the flash. The number of shots depends on use of the flash and whether flash is turned on or off.</td></tr>
<tr><td>Power Consumption</td><td>Approximately 6.8 W</td></tr>
<tr><td>Dimensions</td><td>118(W) x 74.5(H) x 64.5(D) mm</td></tr>
<tr><td>Weight</td><td>Approximately 355 g (excluding batteries)</td></tr>
</table>

- This camera does not have a separate battery to power its clock. Clock settings are cleared whenever power to the camera is cut off (by batteries going dead while the camera is not connected to an AC power outlet with the AC adaptor) for about 24 hours. After power is resumed, either by loading fresh batteries or connecting to an AC power outlet, you will have to set the correct time and date again.
- The liquid crystal panel built into this camera is the product of precision engineering, with a pixel yield of 99.99%. This also means, however that 0.01% of the pixels can be expected to fail to light or to remain lit at all times.

BLOCK DIAGRAM



ADJUSTMENT

■ Preparation

1. PC (IBM Compatible)/OS:Windows 95/98
2. Link cable.
3. Adjustment program
   1) ADJ821A.EXE (Color adjustment data transfer program)
   2) FLOAD.EXE (Camera unit version up program)
   3) romxxxxxxxx.bin (Camera unit program data)
   4) gmenuxxxxxxxx.bin (Camera unit menu display data)
   5) qv-4000.bin (Upgrade data for CF cards)
4. AC adaptor or stabilizer
5. Digital oscilloscope
6. Multimeter
7. Ammeter
8. Frequency counter
9. TV (with video terminal)
10. Video cable
11. Battery (battery operation/battery cover lock)
12. PC link program : Photo Loader (Communication function confirmation)
13. USB cable/USB driver (USB function confirmation)
14. Test chart (for photography check)
    That which carried out color printing of picture data "CHART1.JPG" and the "CHART2.JPG".

CHART1.JPG

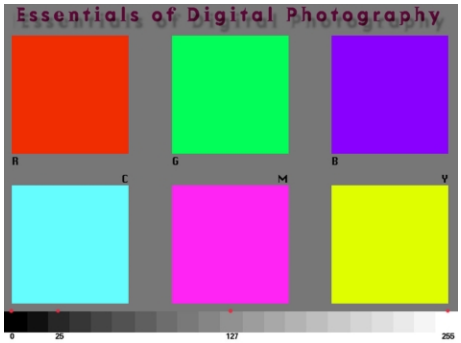
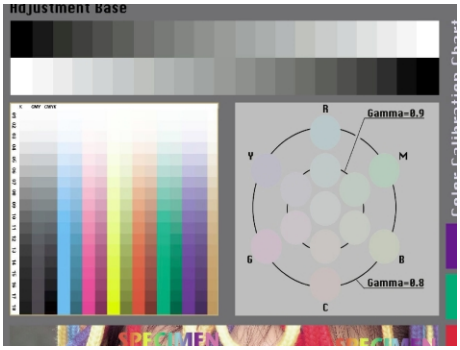


CHART2.JPG



1. Program version upgrading

In the camera unit, program and graphic menu are stored.
Please check the version and update it if the version is not updated.
There are two method of program updating; using CompactFlash card or utilizing PC link cable.

Note:
Be sure to use AC adaptor.

1-1. How to confirm the program (graphic menu) version

1. Boot the test mode.
   Turn the power on while pressing DISP and MENU buttons simultaneously.
2. Check the LCD display.

(Example) English/ Japanese/ Spanish

TEST MODE		
PROG 01. 09. 21. 13. 01	← Program version	
GMENU 01. 07. 23. 10. 24	← Graphic menu version	
. . . .		

(Example) English/ German/ French

TEST MODE		
PROG 01. 09. 21. 13. 01	← Program version	
GMENU 01. 07. 23. 10. 32	← Graphic menu version	
. . . .		

(Example) English/ Spanish/ Italian

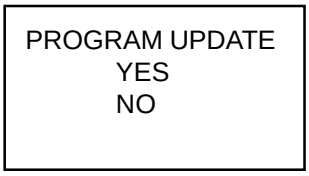
TEST MODE		
PROG 01. 09. 21. 13. 01	← Program version	
GMENU 01. 07. 23. 10. 34	← Graphic menu version	
. . . .		

1-2. Upgrading procedure using the CompactFlash card

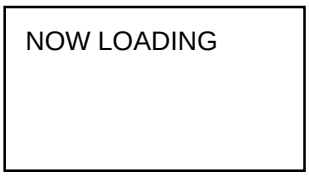
(1) Prepare a CF card that contain QV-4000 firmware upgrading software (qv-4000.bin) in the root directory.

(2) Insert the CF card in the QV-4000 and connect AC adaptor.

(3) While pressing the control button, turn the power key on to "PLAY".
The following display comes out.
Version display (VER1.00 etc.) may come out on the bottom of the display.

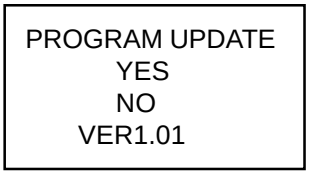


(4) Moving the contol button up or down, move the white cursor at "YES" then push "SHUTTER" key.
The following display comes out and rewriting firmware starts.



(5) After a while, display shows “COMPLETE!” and the camera is set in PLAY mode.

(6) Turn the camera off then turn the power key to “PLAY” while pressing the control button.
Check the version number on the display.



This time “VER1.01” will be shown.

(7) If the version number is correct, the firmware upgrading is completed.
Turn the camera off.

(8) Take a test picture.
Take one picture and play it back and check the result.
If the picture is normal, delete it and complete the test.

1-3. Upgrading procedure using the PC link cable

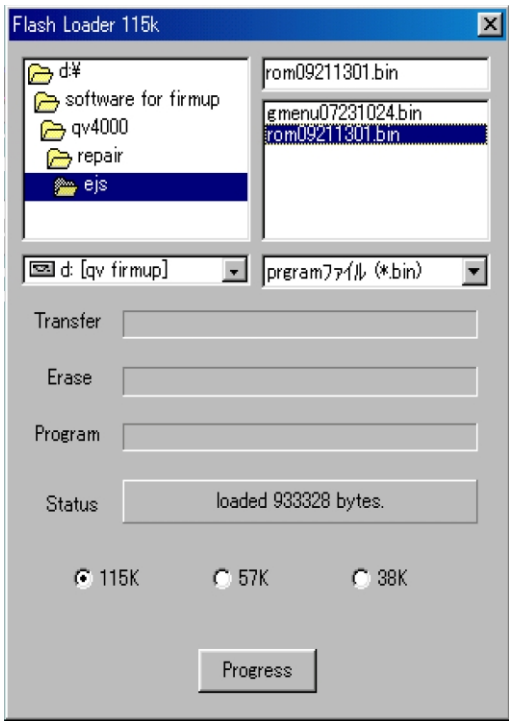
The restoration method at the time of firmware upgrade failure

(1) Set CD-ROM for Service Disc into CD-ROM drive of a personal computer and boot FLASH LOADER “Fload.exe” then select a file to be transferred.
The transmission files are “romXXXX XXXX.bin” and “gmenuXXXX XXXX.bin”.
Perform file selection and rewriting one by one.
If a transmission file is chosen, “loaded ***** bytes” is shown on the “Status” column of the display.

(2) Extract CF card from the camera unit.

(3) Connect the QV serial cable between the camera and the PC.

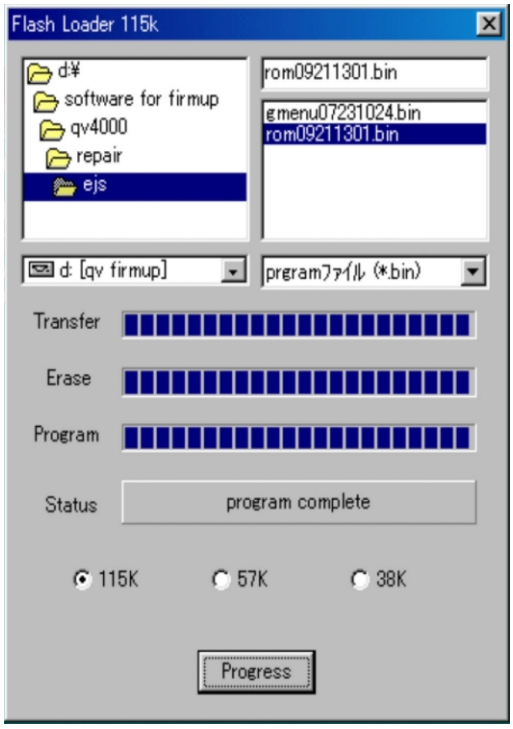
(4) Click “Progress” button on FLASH LOADER “Fload.exe” of the PC.
At this time, keep the camera’s power off.



(5) Insert an AC adaptor and turn the power on.
Since the software is damaged in most cases therefore power turns on as soon as AC adaptor is connected. In such a case, operation checking LED turns on in green so it does not matter even the power key is off.
In case power does not turn on (operation checking LED does not turn on in green) when AC adaptor is connected, turn the power key to “PLAY”.

(6) The progress bar on FLASH LOADER “Fload.exe” starts to move.
The progress bar proceeds to “Transfer”, “Erase” then “Program”.
If a camera has not been turned on for a long time after clicking the “Progress” button, “read timeout” is shown on “Status” column and writing is not be done.
In such a case, repeat the procedures from step 1.

(7) If writing is completed, “program complete” will be shown on “Status” column of the display.



(8) Disconnect AC adapter and shut off a power supply.
This method does not turn the power off by key operation.
Therefore, disconnect the AC adaptor to shut the camera off compulsorily.

(9) Continuously choose and rewrite the other transmission file.
Repeat the above steps 1 to 8 to rewrite.

(10) When both files are rewritten, disconnect QV serial cable from the camera and check the version indication following the undermentioned procedure.
While pushing down “DISP” and “MENU” keys, turn the power key to “PLAY” and check the version numbers of Program and GMENU.

(11) After checking the version numbers, take one test picture and make sure that shooting, playing back, and deleting are done normally.

2. Test mode

Note: Do not perform the menu item unless explained here. (It may damage the internal data and camera becomes unusable.)

2-1. Booting

To boot the test mode;
Turn the camera on while pressing MENU and DISP buttons.

To boot MENU1
Press DISP ➜ DISP ➜ MENU keys in order rapidly.

To boot MENU2
Press FLASH ➜ FLASH ➜ MENU keys in order rapidly.

To boot MENU3
Press SELF ➜ SELF ➜ MENU keys in order rapidly.

* To execute
Move up or down the control key to select a test item then press shutter button to execute it.

2-2. Item for testing

① TEST MODE

```
TEST MODE              EN  PAL
PROG              01. 09. 21. 13. 01
GMENU             01. 07. 23. 10. 24
LOADER  VERSION                1.10
POWER                         OX3F
G-MENU                 EJS     1.00

ADJUSTMENT
ZOOM      OK    KIZU       OK
WB        OK    ZTRACK     OK
IRIS      OK    STROBE     OK
SHUTTER   OK    VCOM       OK
```

② MENU1

```
MENU 1
1. INIT , NTSC JAPANESE
2. LED+SUBLCD ON
3. INIT , NTSC ENGLISH
4. CROSS HATCH
5. ANGLE DETECT CHECK
6. INIT , PAL ENGLISH
7. COLOR BAR
8. INIT , PAL GERMAN
```

③ MENU2

MENU2

1. NOP
2. ZOOM ADJUST
3. WB ADJUST
4. IRIS ADJUST
5. SHUTTER ADJUST
6. KIZU
7. ZTRACK ADJUST
8. STROBE ADJUST
9. VCOM ADJUST

④ MENU3

MENU3

1. HARDWARE COLORBAR
2. REC INFO
3. BATT , TEST
4. PROG+GMENU UPDATE
5. PROG UP DATE
6. GMENU UPDATE
7. CHECK SUM
8. OSD DATA CHECK
9. ERROR MESSAGE TEST
10. SDRAM CHECK

MENU3

11. KEY CHECK
12. LED CHECK
13. CF CHECK
14. SUBLCD ALL ON
15. CF SPEED TEST
16. AF INFO
17. SUBLCO CHECK
18. LASTMEM CLEAR
19. NOISE CAPTURE
20. BAYER CAPTURE

MENU3

21. SHUTTER CLOSE REC
22. CLEAR ADJUSTMENT
23. GRAY SCALE(10STEP)
24. WHITE
25. BLACK
26. 50PERCENT GRAY

3. Product conditions

3-1. Color adjustment data writing

1. Summary

(1) QV-4000 is a high quality digital camera and makeshift adjustments cannot cover the quality of the camera's picture.
Therefore, we have prepared set of lens ass'y that is adjusted precisely in the factory and a floppy disc containing the lens'es adjustment data as spare parts.
(2) These adjustment data are stored in the FlashROM on Main PCB.

2. Repairs

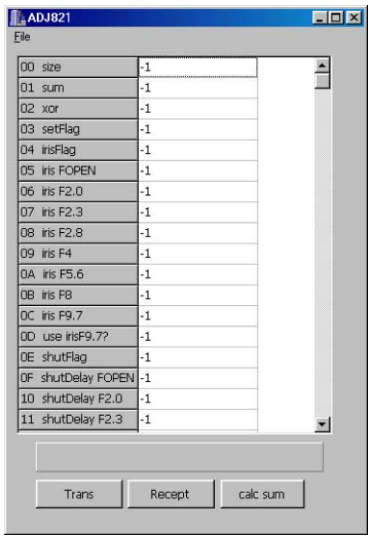
It is necessary to write color adjustment data for the replacements of the following units.
(1) Lens ass'y
(2) Main PCB (when FlashROM contents can be read)
(3) Main PCB and lens ass'y (when FlashROM contents cannot be read)

3. To replace the lens ass'y

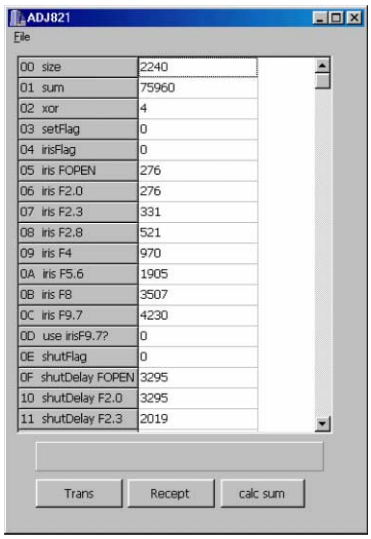
(1) Connect AC adaptor and PC link cable to the camera.
Note: Connect the link cable to serial port COM1.

(2) Turn the camera on to set it on PLAY mode.

(3) Boot adjustment program ADJ821A.EXE.
At this time, each adjustment data are "-1".

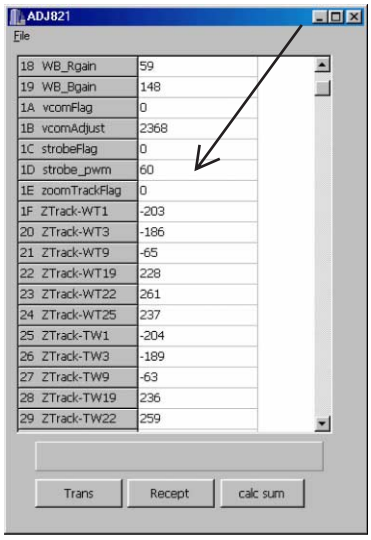


(4) Read the adjustment data of before repairs.
Click the Receipt button. “receive OK” will be indicated and adjustment data are shown.



Reference: At this time you can save the adjustment data in your PC.
File (F) ➜ Save as (A)
Select the drive and name the file then save it.
(Note: Do not forget to put extension code ".ADJ".)

(5) Write down the following numbers.
strobe-pwm



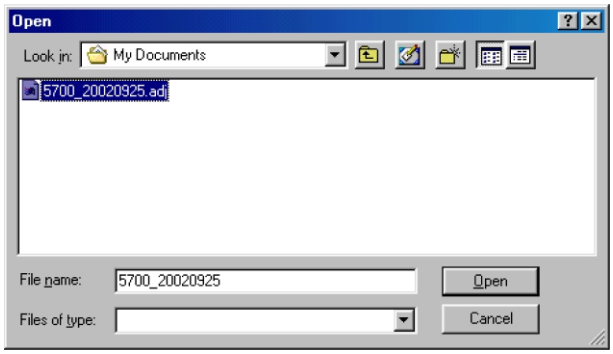
(6) Replace the lens ass'y.
(Adjusted in the factory and comes with adjustment data)

(7) Connect AC adaptor and PC link cable to the camera.

(8) Turn the camera on and set it on PLAY mode.

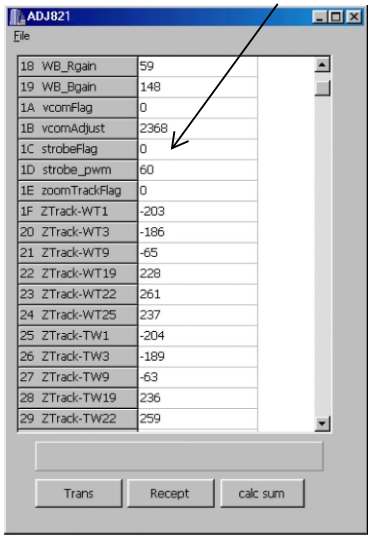
(9) Boot the adjustment program (ADJ821A.EXE).

(10) Insert the floppy disc containing adjustment data of the lens ass'y in your PC and read the data.
File (F) ➜ Open (O)
Select FDD
Select adjustment data file with extension code .ADJ.



(11) Return the data of the Strobe-pwn you have written on step 5 (data before replacing the lens unit).
Set strobeFlag "0" and click the calc sum button.

Caution: Never change the other data.



(12) Transfer the data to the camera.
Click Trans button on ADJ window.
“send OK” will be shown.

(13) Turn the camera off.

(14) Booting the test mode, be sure that each adjustment item is YES.
Power on while pressing DISP and MENU keys simultaneously.

ADJUSTMENT			
ZOOM	**OK**	**KIZU**	**OK**
WB	**OK**	**ZTRACK**	**OK**
IRIS	**OK**	**STROBE**	**OK**
SHUTTER	**OK**	**VCOM**	**OK**

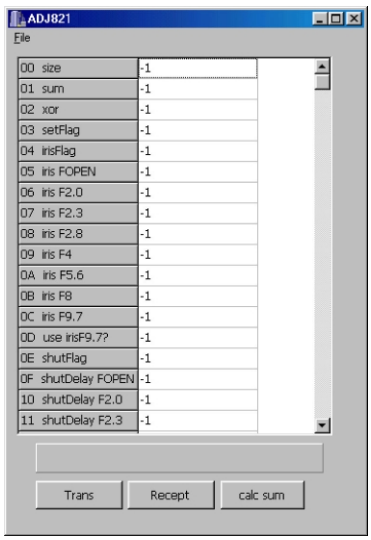
(15) Check the camera operation by shooting a picture and play it back.

1-4. To replace Main PCB (in case the contents of FlashROM can be read)

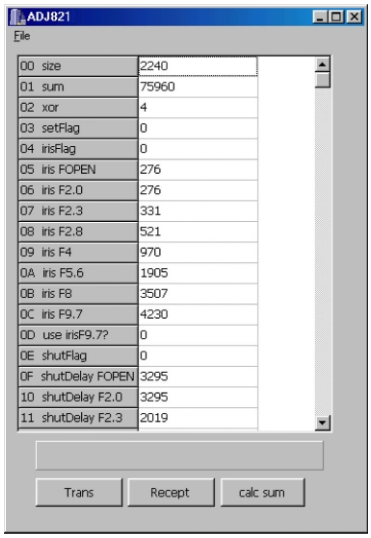
(1) Connect AC adaptor and PC link cable to the camera.
Note: Connect the link cable to serial port COM1.

(2) Turn the camera on to set it on PLAY mode.

(3) Boot adjustment program ADJ821A.EXE.
At this time, each adjustment data are "-1".



(4) Read the adjustment data of before repairs.
Click the Receipt button. "receive OK" will be indicated and adjustment data are shown.



(5) Save the adjustment data in the PC.
File (F) ➜ Save as (A)
Select a drive to save data.
Name a file name then save the data.
(It is better to name the camera's serial number as the file name.)
XXXXXXXX.ADJ (Note: do not forget the extension code .ADJ.)

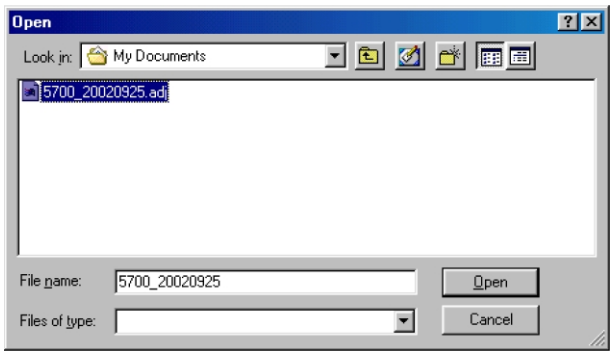
(6) Replace the Main PCB

(7) Connect AC adaptor and PC link cable to the camera.

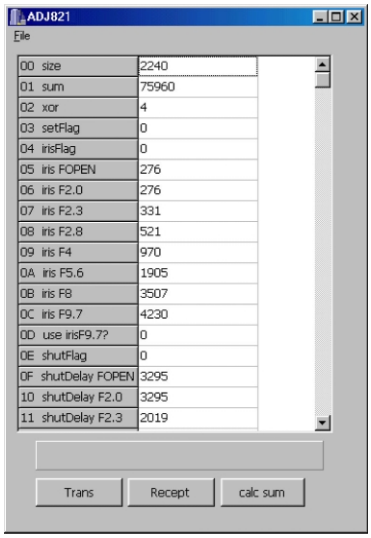
(8) Turn the camera on and set it on PLAY mode.

(9) Boot the adjustment program (ADJ821A.EXE).

(10) Load the saved data of the lens unit.



(11) Transfer the data to the camera.
Click Trans button on ADJ window.
“send OK” will be shown.



(12) Turn the camera off.

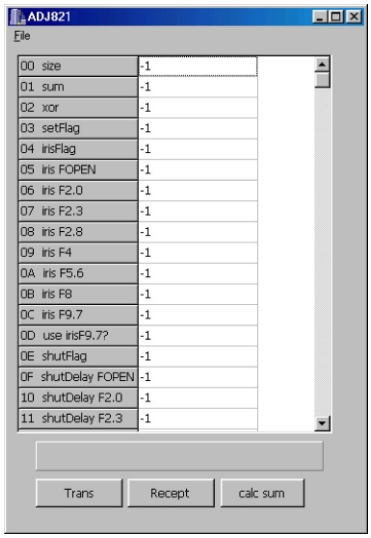
(13) Booting the test mode, be sure that each adjustment item is YES.
Power on while pressing DISP and MENU keys simultaneously.

ADJUSTMENT			
ZOOM	**OK**	**KIZU**	**OK**
WB	**OK**	**ZTRACK**	**OK**
IRIS	**OK**	**STROBE**	**OK**
SHUTTER	**OK**	**VCOM**	**OK**

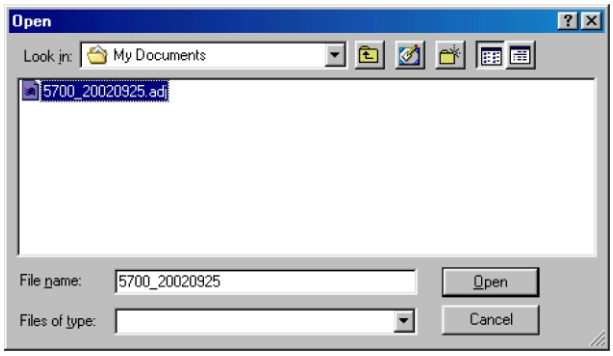
(14) Check the camera operation by shooting a picture and play it back.

1-5. In case of replacing Main PCB and lens ass'y (FlashROM on Main PCB contents cannot be read)

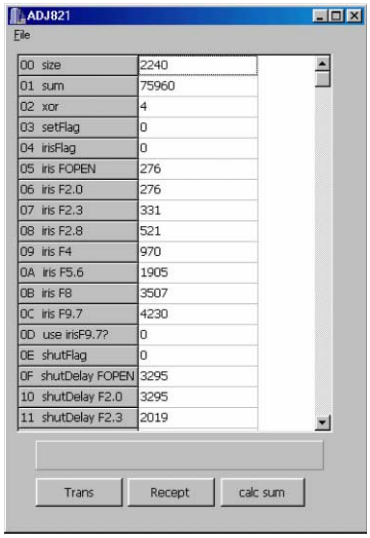
(1) Replace PCB D and lens ass'y.
(2) Connect AC adaptor and PC link cable to the camera.
Note: Connect the link cable to serial port COM1.
(3) Turn the camera on to set it on PLAY mode.
(4) Boot adjustment program ADJ821A.EXE.
At this point, adjustment data of each item is "-1".



(5) Insert the floppy disc containing adjustment data of the lens ass'y in your PC and read the data.
File (F) ➜ Open (O)
Select FDD
Select adjustment data file with extension code .ADJ.and load it.



(6) Transfer the adjustment data to the camera.
Clock Trans button on ADJ program window.
Send OK. Will be shown.



(7) Turn the camera off.

(8) Booting the test mode, be sure that each adjustment item is YES.
Power on while pressing DISP and MENU keys simultaneously.

ADJUSTMENT			
ZOOM	**OK**	**KIZU**	**OK**
WB	**OK**	**ZTRACK**	**OK**
IRIS	**OK**	**STROBE**	**OK**
SHUTTER	**OK**	**VCOM**	**OK**

(9) Perform the function check (Record/Playback).

3-2. Flash adjustment

1. General

When you exchange a flash unit, please perform this adjustment.

2. Necessary equipment

(1) Dark room
(2) AC adaptor
(3) Gray paper (Superior's oxford gray No. 22)
The following sizes are available from us (also available from camra shop).

Parts code	Parts name	Specifications
1904 5411	Superior photographing background paper	No. 22 (1.75 x 2.7m)
1904 5412	Sperior photographing background paper	No. 22 (2.72 x 11m)

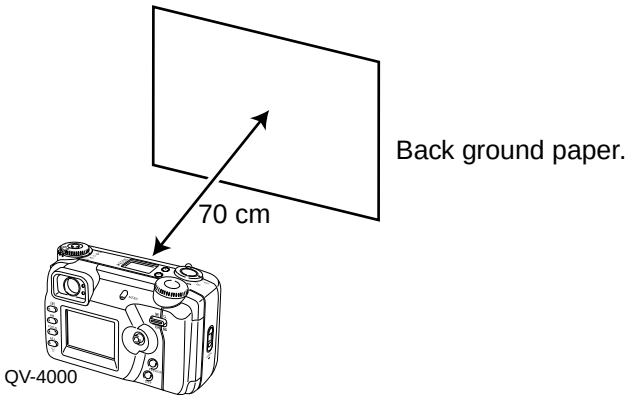
3. Condition

(1) Perform in a dark room.
(2) Distance between flash lens and gray paper should be 70 ± 5 cm.
(3) Use lighter color of the gray paper.
Paper should be larger enough to fit in a picture taken from 70 cm distance.
(Reference; more than 1.5m x 2.0m)

4. Adjustment

(1) Connect an AC adaptor to the camera.
(2) Set the camera in REC mode.
(3) Boot MENU 2 in the test mode by the following operations;
Turn the power on while pushing DISP and MENU keys.
Push FLASH, FLASH, and MENU keys rapidly in order.
(4) Move control button up and down, select STROBE ADJUST and push the shutter release button.
(5) Adjustment is completed after emitting flash 4 times.
1st flashing; Checking amount of light in normal shooting
(Emitting 4 times maximum changing PWM value.)
2nd flashing; Confirming amount of light of the 1st flashing.
3rd flashing; Checking brightness after changing PWM value.
4th flashing; Checking the circuit for changing aperture (F2.0 -> F5.6).

5. Block diagram



3-3. Flash operation and recharge operation

1. General

When you exchange a flash unit, please perform this adjustment.

2. Necessary equipment

(1) Dark room
(2) AC adaptor
(3) Gray paper (Superior's oxford gray No. 22)
The following sizes are available from us (also available from camra shop).

Parts code	Parts name	Specifications
1904 5411	Superior photographing background paper	No. 22 (1.75 x 2.7m)
1904 5412	Sperior photographing background paper	No. 22 (2.72 x 11m)

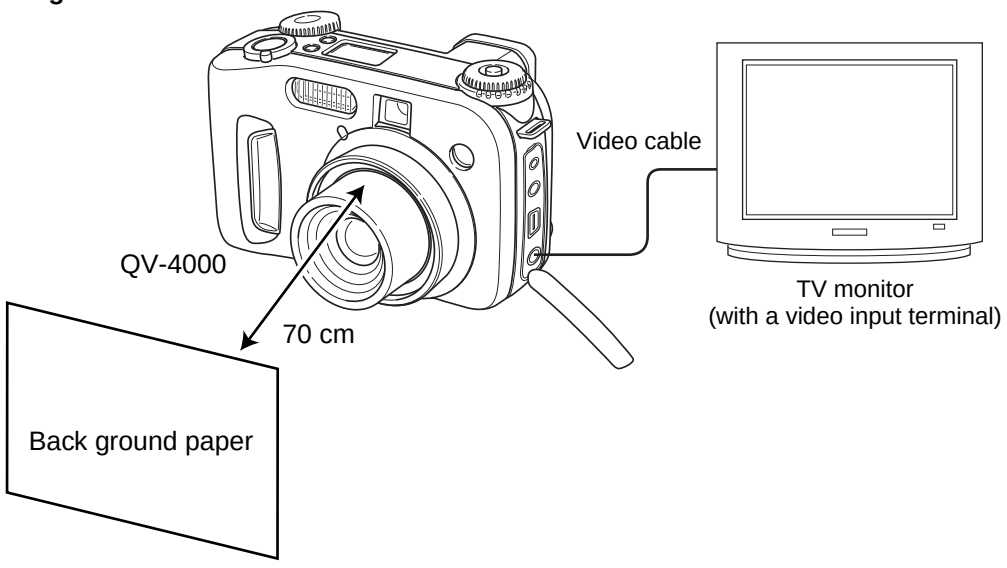
3. Condition

(1) Perform in a dark room.
(2) Distance between flash lens and gray paper should be 70 ± 5 cm.
(3) Use lighter color of the gray paper.
Paper should be larger enough to fit in a picture taken from 70 cm distance.
(Reference; more than 1.5m x 2.0m)

4. Adjustment

(1) Connect an AC adaptor to the camera.
(2) Set the camera in red-eye reduction mode.
(3) Shoot a back ground paper (confirm pre-flashing and actual flashing.)
(4) Connect the camera and TV's video terminal with a video cable and check the picture.
Should not be too white, too dark, or colored.
(5) Flash charging current should not exceed 1.3 A.
(6) Shoot in non-flash mode and confirm flash does not emit light.

5. Block diagram



3-4. Current consumption

1. General

When consumption of a battery is early, check.

2. Conditions

• Set QV-4000UX to “PLAY” mode.

3. Preparation

(1) Voltage regulator.
(2) Ammeter.

4. Adjustment procedure

(1) Current consumption (DC in = 6.0 ± 0.1 [V])
  • Make sure that current consumption is less than 495 mA in PLAY mode.
  • Make sure that current consumption is less than 680 mA in REC mode.
  (Flash charge current is not included)

(2) Lower the voltage from 6 V as shown below then make sure the battery warning indicator changes.

DC in = 5.0 ± 0.05 [V] (one indicator is off)

DC in = 4.65 ± 0.05 [V] (two indicators are off)

3-5. VCOM DC adjustment

1. General

Perform these adjustments when you replace LCD module or MAIN-PCB.

2. Preparation

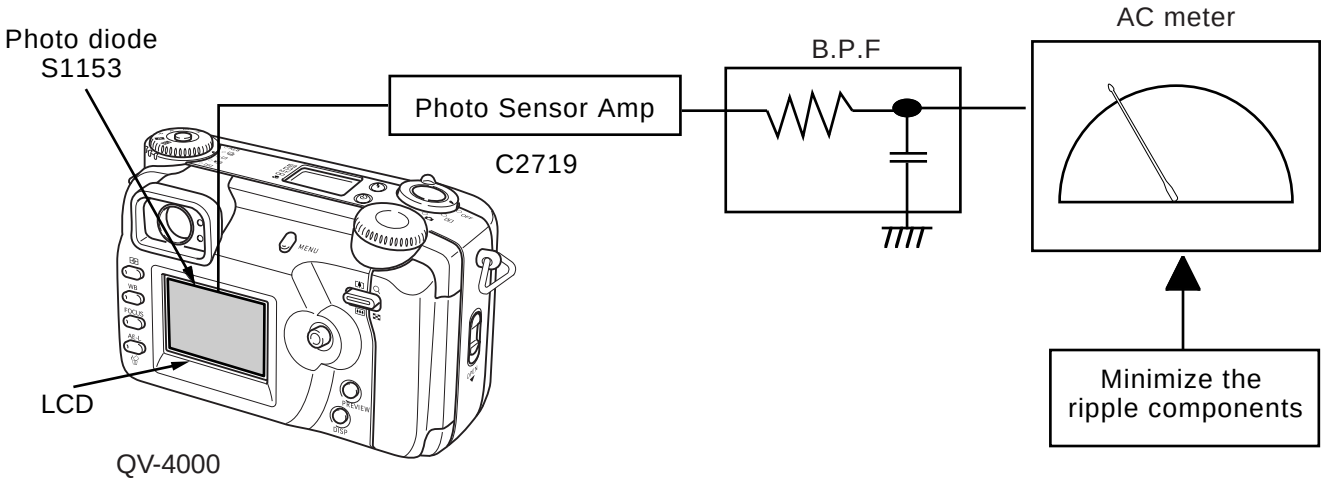
(1) AC adaptor or stabilizer.
(2) Photo sensor / Photo sensor amp (C2719)
(3) Digital oscilloscope.

3. Adjustment and checking

(1) Turn the power on while pressing DISP and MENU keys simultaneously. (TEST MODE)
(2) Push FLASH ➜ FLASH ➜ MENU keys in order rapidly. (TEST MODE 2)
(3) Select VCOM ADJUST and press the shutter release button about half way.

VCOM DC ADJ
0X00000840

(4) Monitoring the Photo Sensor Amp output via B.P.F., move the control button up or down so that the ripple component is minimum.



3-6. Assist light adjustment.

1. General

Perform this adjustment when you replace the assist light(LED).

2. Necessary equipment

(1) Dark room.
(2) AC adaptor.
(3) TV (With video terminal).
(4) Video cable.

3. Condition

(1) Perform the adjustment in a dark room.
(2) Distance between Lens and object is 2.0 ± 0.1m.
(3) The camera's upper case is removed.

4. Adjustment.

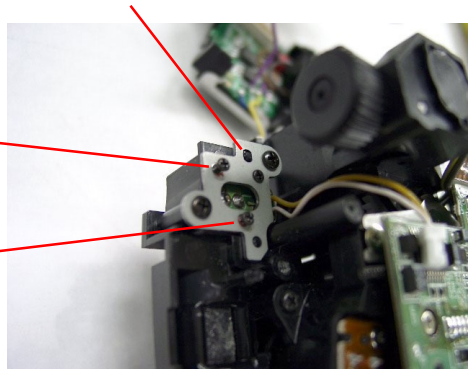
(1) Connect AC adaptor and video cable to the camera.
(2) Turn on the camera and enter REC mode.
(3) Set the drive mode dial in AEB mode.
(4) Move the control button UP, UP, DOWN, DOWN.
(5) Assist light (LED) comes on.
(6) To move the assist light reflected on the screen to the correct position, turn the screw A and B as shown below.
*Make adjustment while looking at the TV monitor.

5. Screw A and B.

(1) To move the assist light to the right and left, turn the screw A.

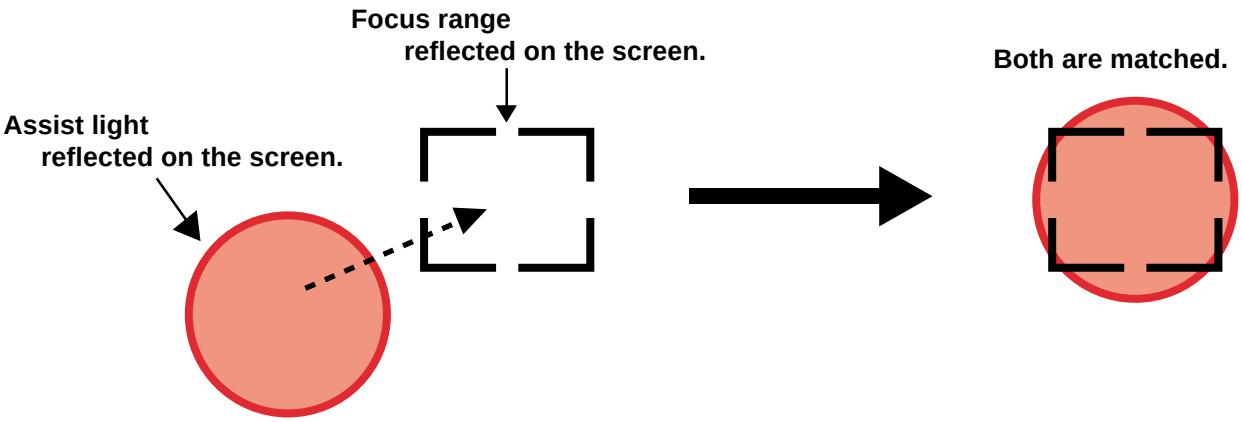
(2) To move the assist light up and down, turn the screw B.

LED plate **Figure**



6. Adjustment process.

<Before adjustment> **<After adjustment>**



3-7. Operation check

1. General

After repairs, please check if needed.

2. Preparation

(1) Batteries.
(2) AC adaptor.
(3) PC (IBM compatible)/OS:Windows 95/98.
(4) Link cable.
(5) Photo loader (program).
(6) TV (with video teminal).
(7) Video cable.
(8) USB cable/USB driver
(9) Test chart (for photography check)
(That which carried out color printing of picture data "CHART1.JPG" and the "CHART2.JPG".)

3. Check matter

(1) Shock and flash check (essential)
① Shoot the test chart without flashing.
② Shoot the test chart with flashing.
③ Confirm the result (compare with properly functioning camera) for;
- Color
- Focus and resolution

(2) Unti-shock, Battery operations, AC Adaptor check
(3) Power jack, switch, buttons operations
(4) CompactFlash insersion/eject operation, Cover open/close operation, battery cover open/close operation. Lens block rotation
(5) Image reversing, Normal/Macro switching, ZOOM operation, AE operation , AF operation, Self-timer count down display, exposure adjustment function, flash display function, self-timer function.
(6) Video output, serial communication, USB function.
(7) Appearance check (Dust on the lens, scratch, dirt, damage, etc.)

4. Note

(1) Make sure Video out setting are appropriate to your country.
(i.e. Japan=NTSC, England = PAL)

5. Test chart picture

CHART1.JPG

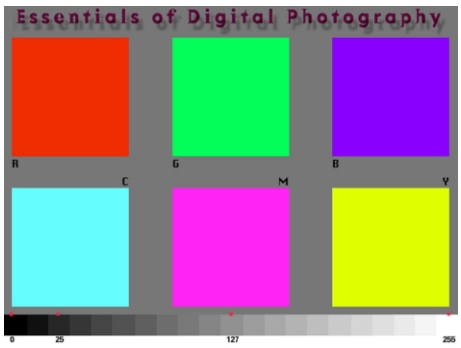


CHART2.JPG

4. MAIN PCB Assy

4-1. RGB AMP and Sub-Brightness voltage setting adjustment

1. General

Perform the following adjustments in order.

4-1. RGB AMP and Sub-Brightness voltage setting adjustment

4-2. Contrast and Brightness voltage setting adjustment

4-3. TINT setting adjustment

2. Preparation

- AC adaptor or voltage regulator
- Digital oscilloscope

3. Adjustment procedure

(1) Start up Test mode Menu3.
   1. Turn POWER on while pressing DISP key and MENU button simultaneously
   2. Quickly press keys in the order of TIMER key, TIMER key and MENU key.

(2) Select / Execute GRAY SCALE (10 step).

(3) Impress the killer terminal (CP342) with VCC2 (CP172) voltage through a 22 kΩ resistance.

(4) Trigger VG waveform (CP344) by FRP (CP346) signal to adjust as noted below.

(5) Adjust RGB-AMP VR (VR340) so that pedestal-pedestal voltage of VG(CP344) signal is 3.80 ± 0.05 Vp-p.

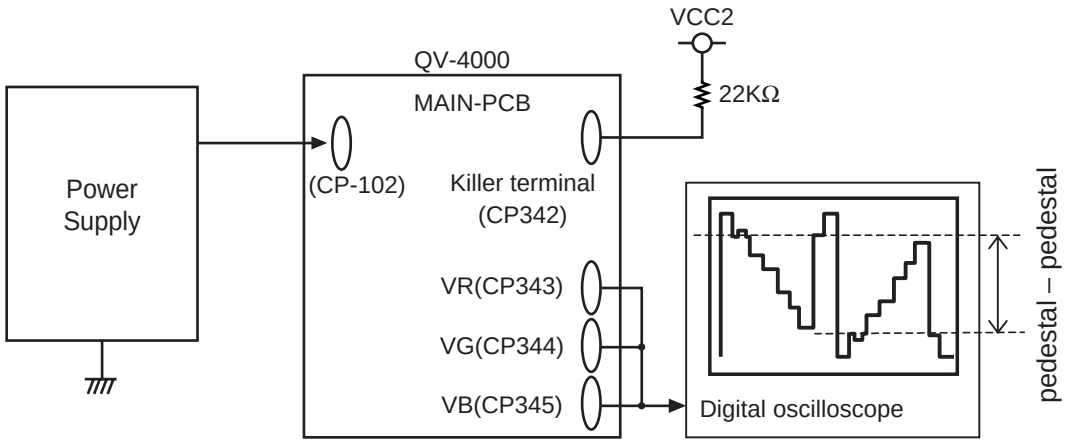
(6) Adjust SUB R BRIGHT VR (VR343) so that potential between VR (CP343) signal's pedestal and pedestal is 3.70 ± 0.05 Vp-p.

(7) Adjust SUB B BRIGHT VR (VR342) so that potential between VB (CP345) signal's pedestal and pedestal is 3.60 ± 0.05 Vp-p.

3. Notes

- Consecutively, execute **5-4. Contrast and Brightness voltage setting adjustment**.
- Make sure that waveforms are not distorted.

4. Connection diagram



4-2. Contrast and Brightness voltage setting adjustment

1. Preparation

- AC adaptor or voltage regulator
- Digital oscilloscope

2. Adjustment procedure

(1) Start up Test mode Menu3.
   1. Turn POWER on while pressing DISP key and MENU button simultaneously
   2. Quickly press keys in the order of TIMER key, TIMER key and MENU key.

(2) Select / Execute GRAY SCALE (10 step).

(3) Trigger VG waveform (CP344) by FRP (CP346) signal to adjust as noted below.

(4) Adjust CONTRAST VR (VR344) so that contrast terminal voltage(CP341) signal is 1.50 ± 0.05 Vp-p.

(5) Adjust BRIGHT VR (VR341) so that potential between signal's pedestal and 4 step is 2.16 ± 0.05 Vp-p.

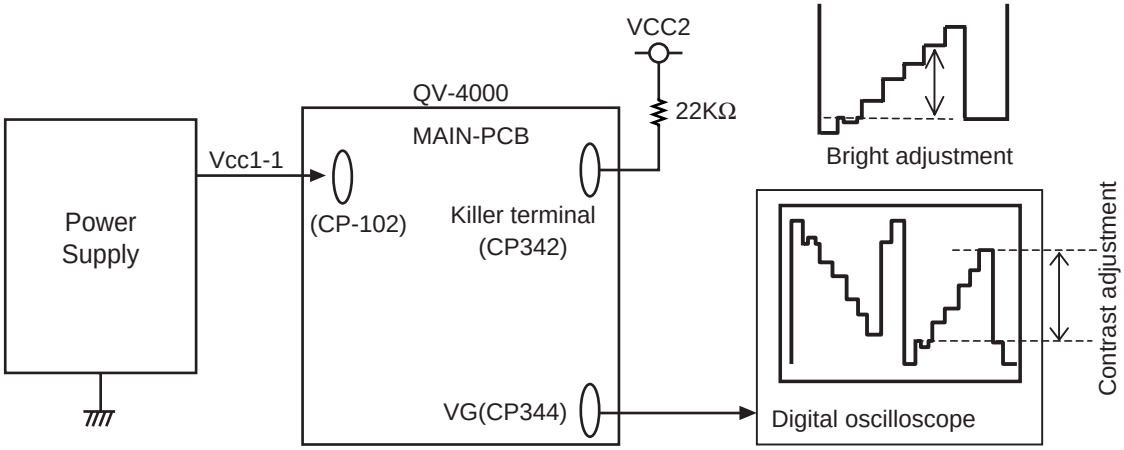
(6) Adjust CONTRAST VR (VR344) so that potential between signal's pedestal and 10 step is 2.00 ± 0.05 Vp-p.

(7) Remove the resistance set between the killer terminal (CP342) and the VCC5 (CP172).

3. Notes

- Consecutively, execute **5-5. TINT setting adjustment**.
- Make sure that waveforms are not distorted.

4. Connection diagram



4-3. TINT setting adjustment

1. Preparation

- AC adaptor or voltage regulator
- Digital oscilloscope

2. Adjustment procedure

(1) Start up Test mode Menu1.
   1. Turn POWER on while pressing DISP key and MENU button simultaneously
   2. Quickly press keys in the order of DISP key, DISP key and MENU key.

(2) Select / Execute COLOR BAR.

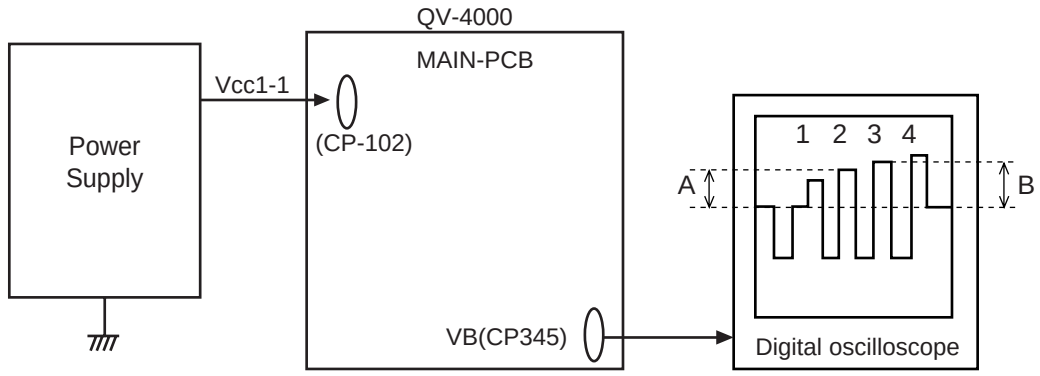
(3) Trigger FRP (CP346) signal to adjust as noted below.

(4) Adjust the VR345 in order to set the potential difference of the fourth pulse height B (between a pedestal and the peak) and the second pulse height A (between a pedestal and the peak) of the four pulses of the VB wave form (CP345) to be less than 0.1 [Vp-p].

3. Notes

- Perform the adjustment consecutively after RGB AMP, Sub brightness, Brightness adjustments.

4. Connection diagram



4-4. EVCC3, VCC1.8, VCC3, VCC5, BLVCC Voltage check

1. Preparation

- AC adaptor or voltage regulator
- Multimeter

2. Adjustment procedure

Confirm the following voltages.

EVCC3 (CP140) = 3.30 ± 0.10 [V]
VCC1.8 (CP116) = 1.80 ± 0.08 [V]
VCC3 (CP112) = 3.30 ± 0.10 [V]
VCC5 (CP120) = 5.00 ± 0.10 [V]
BLVCC (CP180) = 5.40 ± 0.20 [V]

4-5. VCC2, VCC7, VCC15, VEE7 Voltage check

1. Preparation

- AC adaptor or voltage regulator
- Multimeter

2. Adjustment procedure

VCC2 (CP172) = 5.00 ± 0.30 [V]
VCC7 (CP171) = 7.50 ± 0.50 [V]
VCC15 (CP170) = 15.0 ± 0.10 [V]
VEE7 (CP173) = -7.5 ± 0.60 [V]

DISASSEMBLE

1. Remove five screws.

a)

Screw.

b)

Screw.

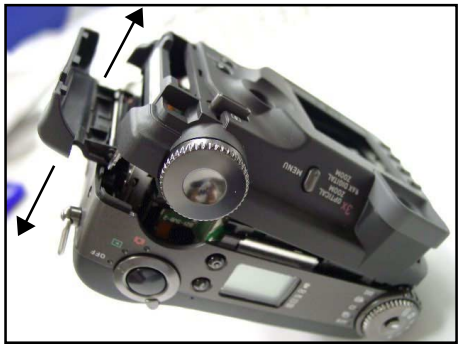
c)

Two screws.

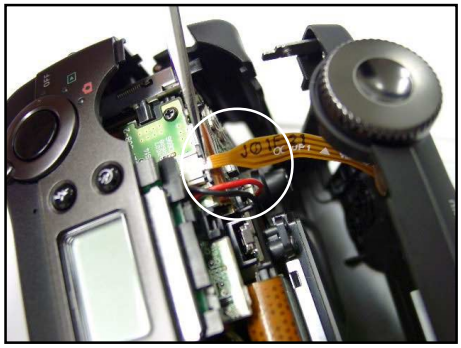
d)

Screw.

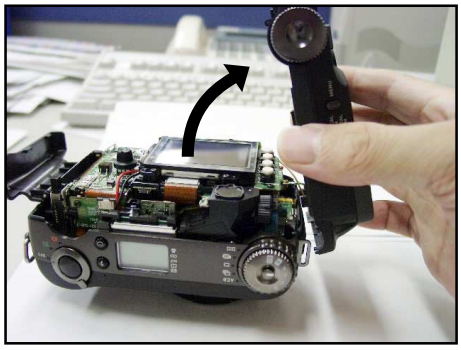
2. After opening CF cover, open uppercase.



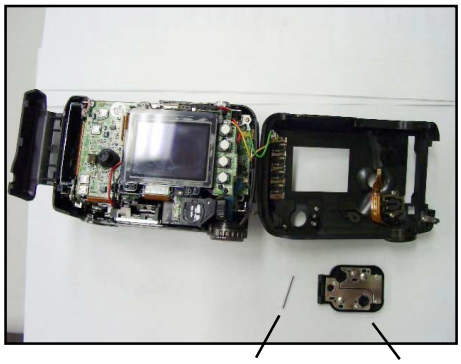
3. Remove the connector.



4. Open the Upperr case wide.

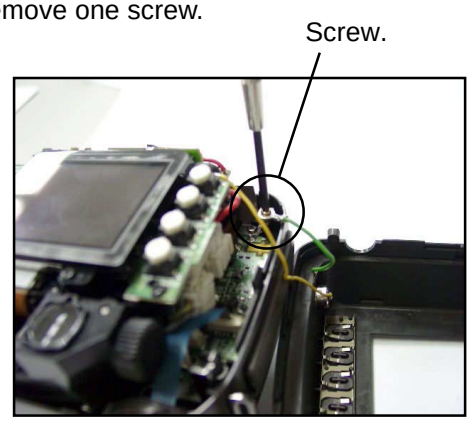


5. Battery cover and Shaft are removed.

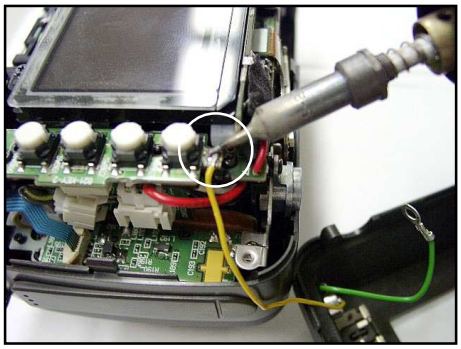


Shaft Battery cover

6. Remove one screw.

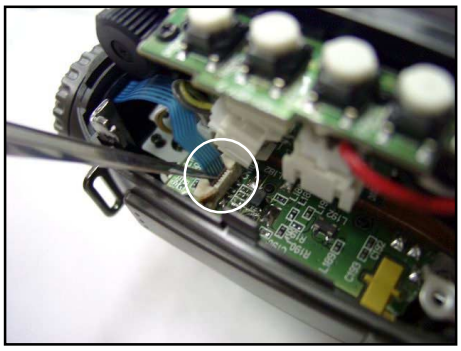


7. Unsolder the lead wire.

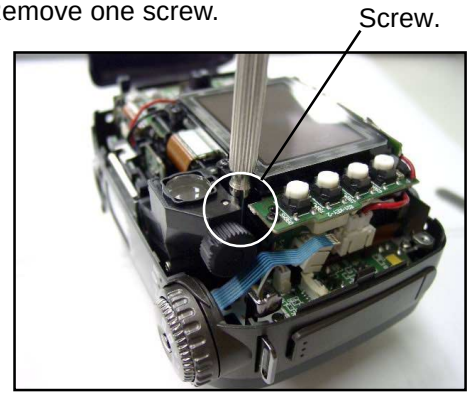


8. Upper case is completely separated.

9. Remove the connector (CN103).

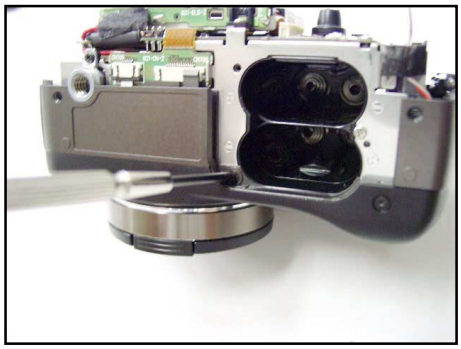


10. Remove one screw.

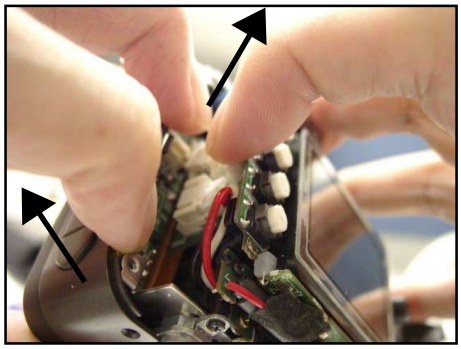


11. Remove the connector (CN485)

12. Remove one screw.

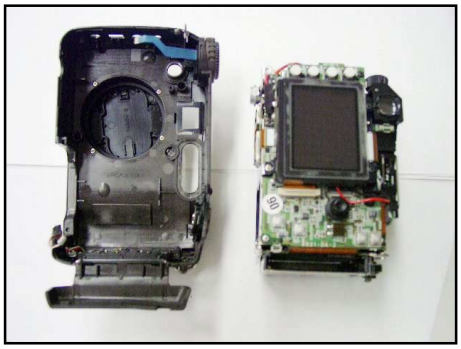


13.Separate unit from the case.

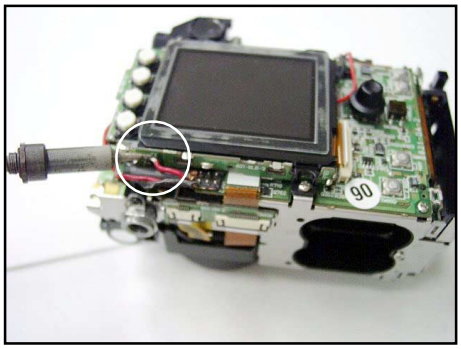


*Separate the unit from JK-PCB side,
while widening the case.

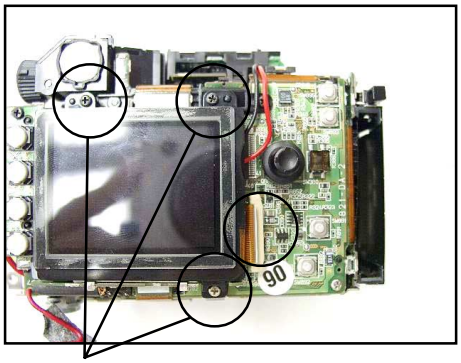
14. Separated in two blocks.



15. Unsolder the lead wire.

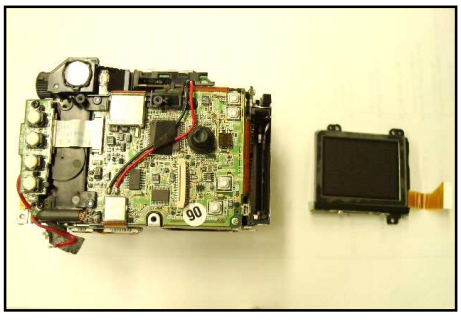


16. Remove three screws and connector CN390.



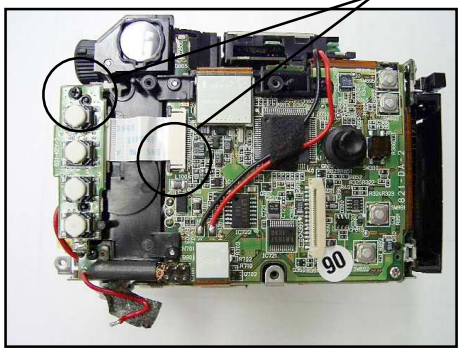
Screw.

17. separate LCD unit.

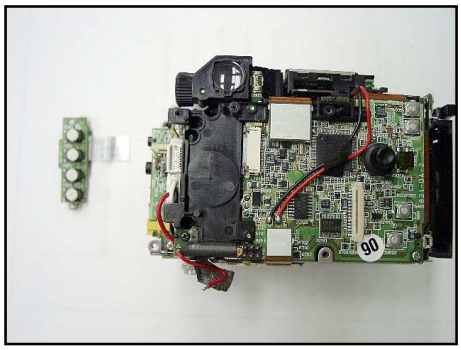


18. Remove screw and connector.

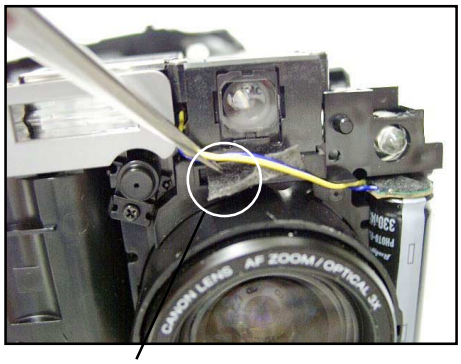
Screw.



19. Separate Key PCB.

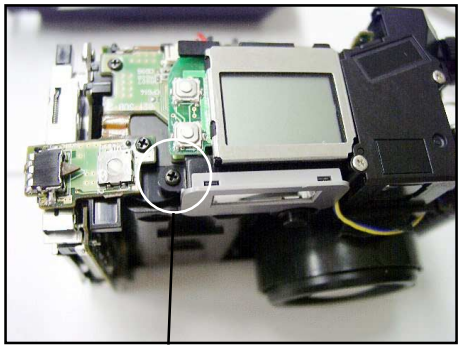


20. After removing Tape, pull the wires.



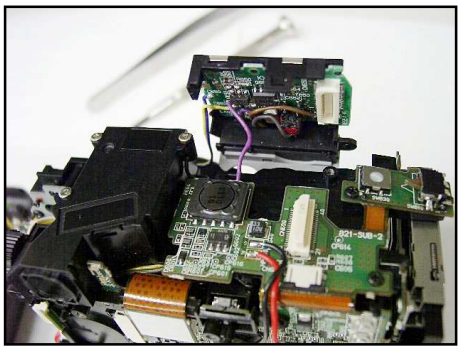
Tape.

21. Remove one screw on Strobe unit.

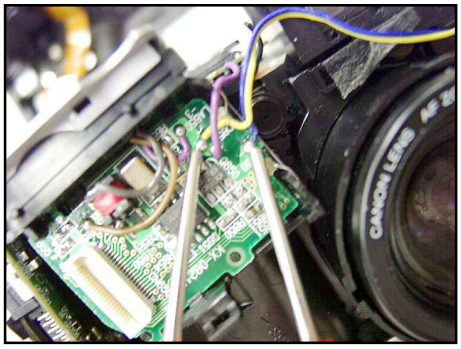


Screw.

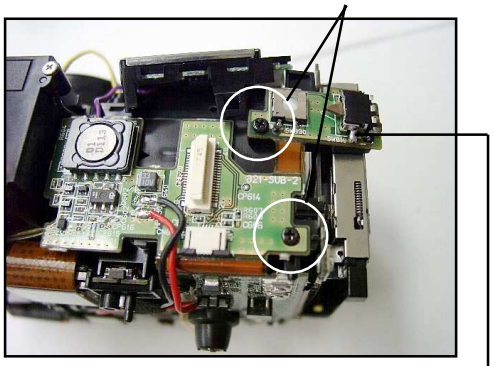
22. Open the Strobe unit.



23. Discharge Fash capacitor using tool.

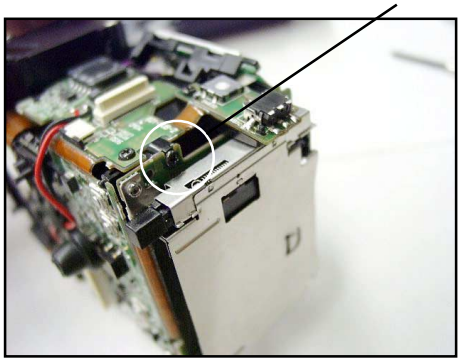


24. Remove two screws.

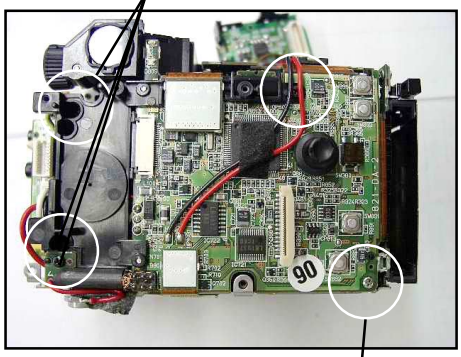


*Peel off the adhesive tape attached on the back side of the PCB.

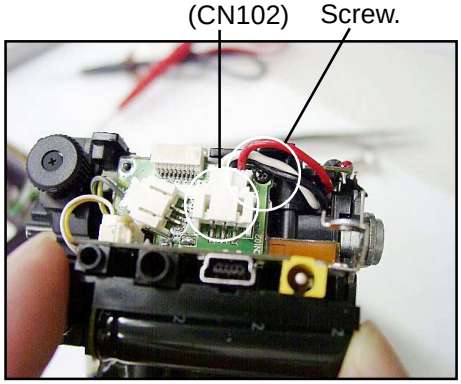
25. Remove one screw at the side.



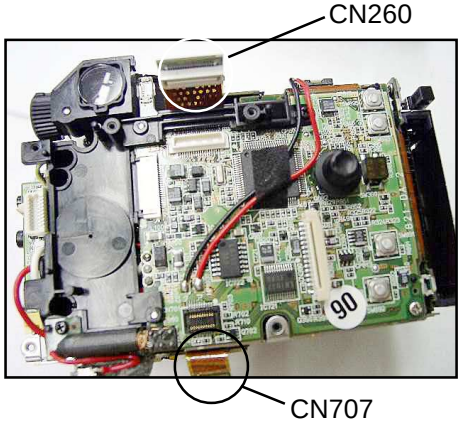
26. Remove five screws.



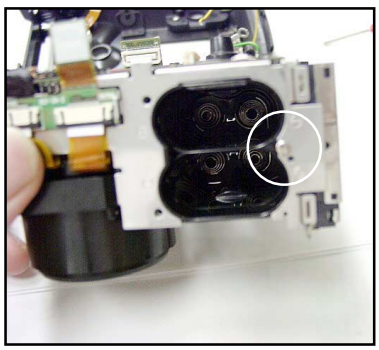
27. Remove screw and connector.



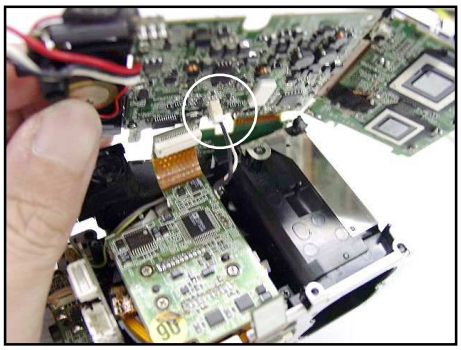
28. Remove two connectors.



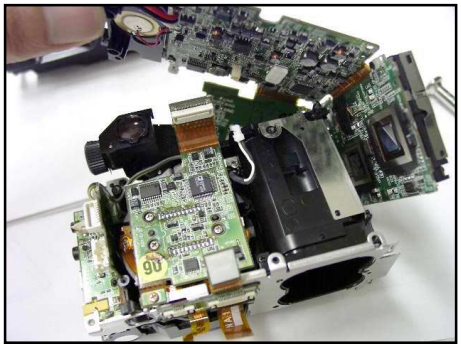
29. Remove one screw.



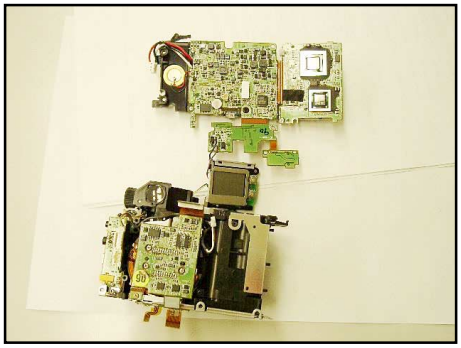
30. Remove connector (CN601).



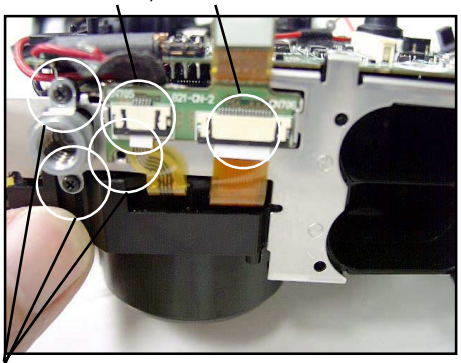
31. Open Main PCB assy.
a)



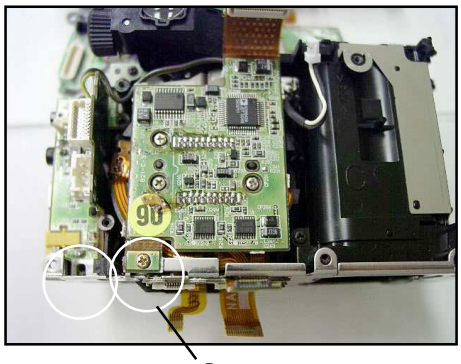
b) Main PCB is open.



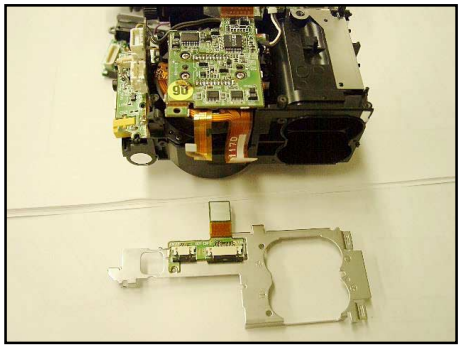
32. Remove three screws and two connectors CN705, CN706.



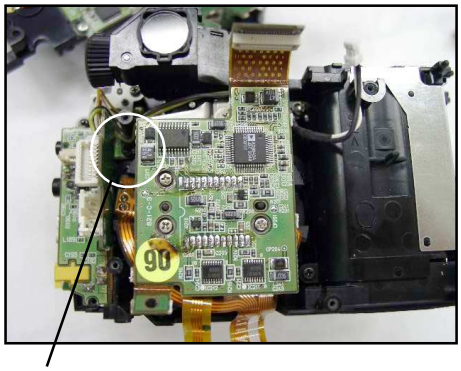
33. Remove two screws.



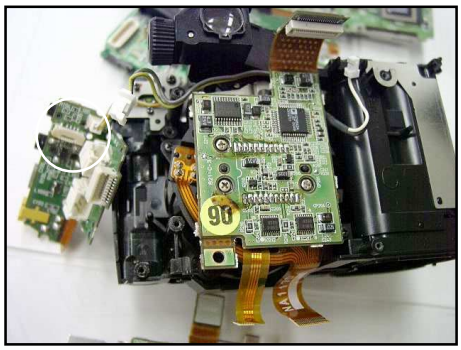
34. Separate chassis.



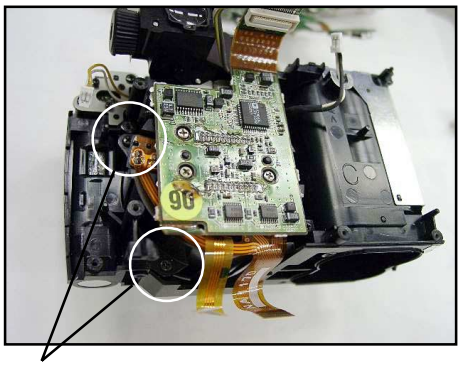
35. Remove one screw.



36. Remove JK-PCB

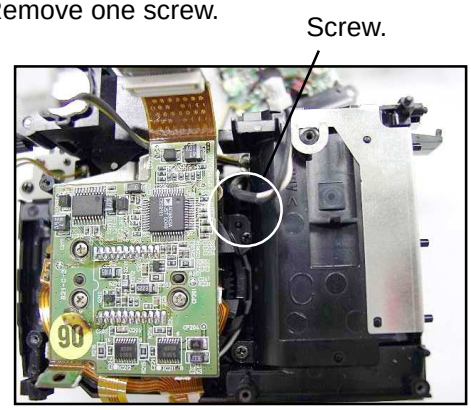


37. Remove two screws.

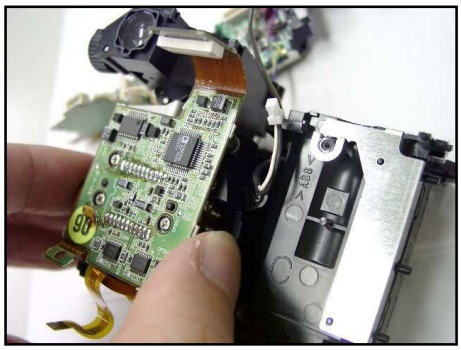


Screw.

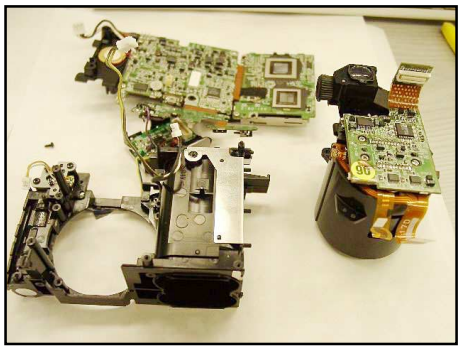
38. Remove one screw.



39. Remove Lens unit.



40. Lens unit is separated.

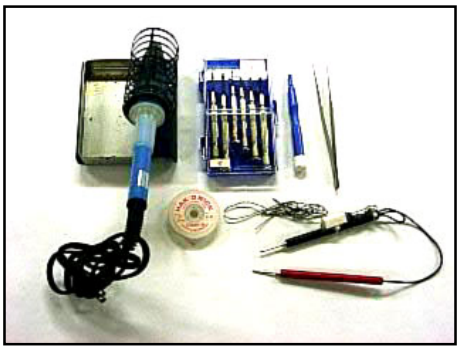


■ Tool

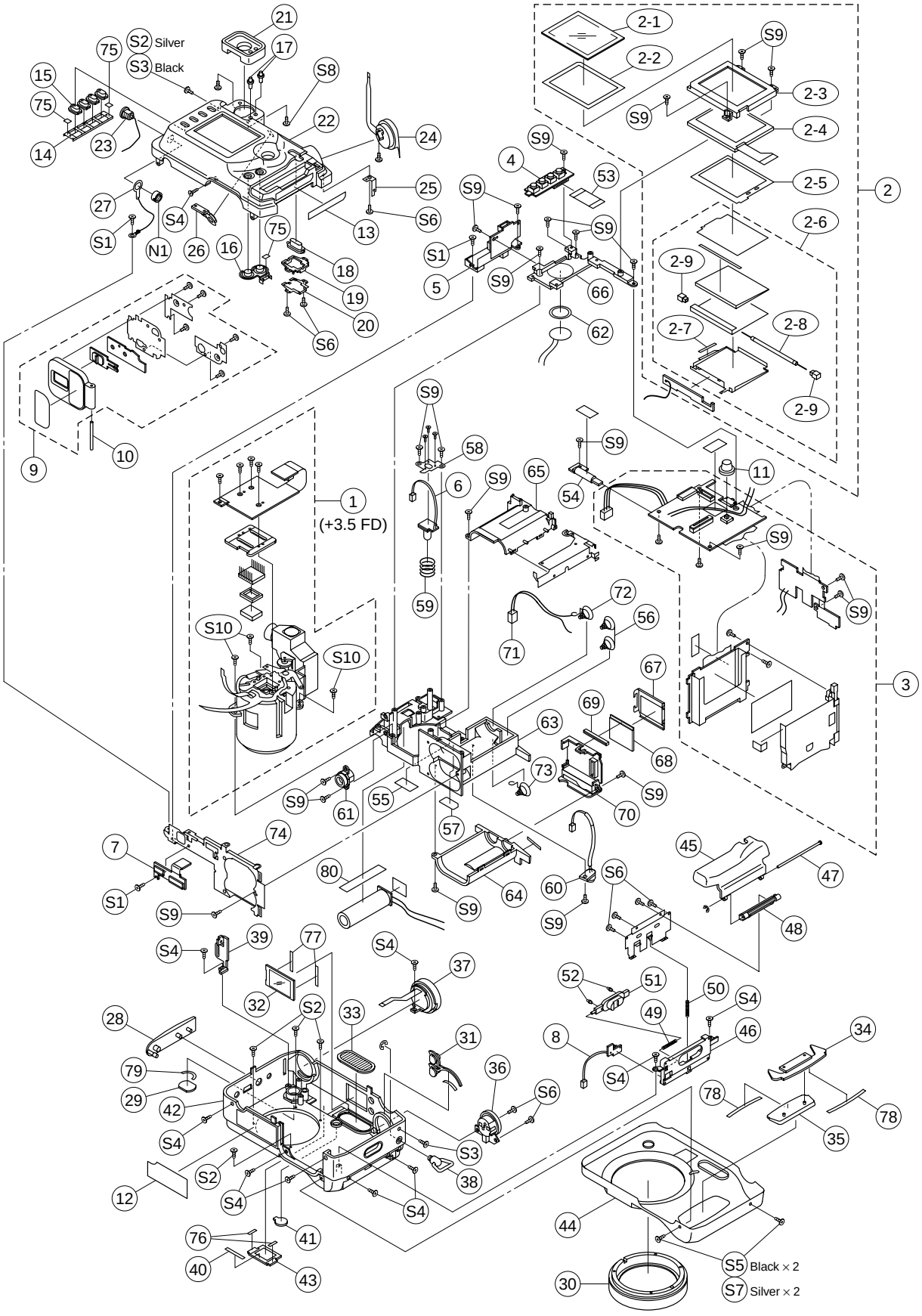
Soldering iron / solder / desoldering wire

Precision screwdrivers / Tweezers

Discharge tool (Resistor 1.5 kΩ 5 W) / Pliers



EXPLODED VIEW



MAIN BODY COMPONENT

N	Item	Code No.	Parts Name	Specification	Applicable	Q	Price Code	R
N	1	1006 1972	CL UNIT	RJK502360*001V01TK	Common	1	EL	A
N	2	1006 1976	ASSY/DISPLAY	RJK502023*001V01TK	Common	1	DM	A
N	2-1	1006 0534	PANEL/DP	RJK502026-001V01	Common	1	AJ	C
N	2-2	1006 0535	TAPE/DOUBLE SIDE	RJK502147-001V01	Common	1	AA	X
N	2-3	10056850	FLAME/DP	RJK502087-001V01	Common	1	AC	X
-	2-4	1002 8706	LCD	COD18T1029FN	Common	1	DE	A
N	2-5	1006 0533	SHEET/SPACER	RJK502025-001V01	Common	1	AA	X
N	2-6	1006 1979	ASSY/BL	RJK502024*001V01TK	Common	1	BU	A
N	2-7	1001 9241	TAPE/DOUBLE SIDE	K441932-4	Common	1	AA	X
-	2-8	3851 2113	LAMP/FLUORESCENT	CAS-1.8JS1.8-1	Common	1	AW	A
-	2-9	6613 5260	CAP/SILICON	K441448-1	Common	2	AB	X
N	3	1006 1982	PCB ASSY/MAIN	RJK501949*001V01TK	Common	1	EG	A
N	4	1006 1975	PCB ASSY/KEY	RJK501923*005V01TK	Common	1	BX	B
N	5	1006 1977	PCB ASSY/JK	RJK501950*001V01TK	Common	1	CH	A
N	6	1006 1981	PCB ASSY/LED	RJK502345*001V01TK	Common	1	BK	B
N	7	1006 1983	PCB ASSY/CN	RJK501923*004V01TK	Common	1	BR	B
N	8	1006 1980	ASSY/CFSW	RJK502369*001V01TK	Common	1	BO	B
N	9	1006 1974	BATTERY COVER ASSY	RJK502016*001V01TK	Black	1	BJ	A
N	9	1006 1973	BATTERY COVER ASSY	RJK502016*002V01TK	Silver	1	BJ	A
N	10	1006 0567	SHAFT	RJK502019-001V01	Common	1	AA	A
N	11	1005 6840	KEY/CURSOR A	RJK502058-001V01	Black	1	AC	B
N	11	1006 0570	KEY/CURSOR B	RJK502058-002V01	Silver	1	AC	B
N	12	1006 0568	PLATE/RATING	RJK502260-001V01	Black	1	AA	X
N	12	1006 4434	PLATE/RATING	RJK502260-002V01	Silver	1	AA	X
N	13	1006 0467	LABEL/CF	RJK502259-001V01	Common	1	AA	X
~~N~~	~~13~~	~~1006 0478~~	~~LABEL/CF~~	~~RJK502259-002V01~~	~~Silver~~	~~1~~		~~X~~
N	14	1006 0466	SPRING/CS	RJK502094-001V01	Common	1	AC	X
N	15	1005 6844	BUTTON/CS	RJK502063-001V01	Black	4	AF	C
N	15	1006 0476	BUTTON/CS	RJK502063-002V01	Silver	4	AF	C
N	16	1005 6843	BUTTON/LCD	RJK502062-001V01	Black	1	AC	C
N	16	1006 0475	BUTTON/LCD	RJK502062-002V01	Silver	1	AC	C
N	17	1005 6842	COVER/LCD	RJK502061-001V01	Common	2	AB	C
N	18	1005 6837	KNOB/ZOOM	RJK502054-001V01	Black	1	AP	C
N	18	1006 0474	KNOB/ZOOM	RJK502054-002V01	Silver	1	AP	C
N	19	1006 0465	SPRING/ZOOM	RJK502093-001V01	Common	1	AA	X
N	20	1005 6841	HOLDER/ZOOM	RJK502060-001V01	Common	1	AC	X
N	21	1005 6838	EYEPIECE	RJK502056-001V01	Common	1	AP	X
N	22	1005 6816	CASE/UPPER	RJK502008-001V01	Black	1	BT	X
N	22	1006 0477	CASE/UPPER	RJK502008-002V01	Silver	1	BT	X
N	23	1006 0464	TERMINAL/SYNCHRO	CO-821-SYNC-1	Common	1	AL	C
N	24	1006 0470	SWITCH UNIT	IB-DC-Y0535	Common	1	BJ	B
N	25	1006 0471	BRIDGE	RJK501998-001V01	Common	1	AD	X
N	26	1005 6817	BUTTON/MENU	RJK502052-001V01	Black	1	AP	C
N	26	1006 0473	BUTTON/MENU	RJK502052-002V01	Silver	1	AP	C
N	27	1006 0469	TERMINAL/LUG	CO-821-SYNC-3	Common	1	AD	X
N	28	1005 6828	COVER/CONNECTOR	RJK502075-001V01	Common	1	AF	C
N	29	1005 6832	COVER/AF	RJK502080-001V01	Common	1	AC	X
N	30	1006 0491	RING/CAM	RJK502088-001V01	Black	1	BO	X
N	30	1006 0496	RING/CAM	RJK502088-002V01	Silver	1	BO	X

Notes: N : New registration parts
Q : Quantity used per unit
R : Rank

N	Item	Code No.	Parts Name	Specification	Applicable	Q	Price Code	R
N	31	1005 6839	BUTTON/MODE	RJK502057-001V01	Common	1	AR	C
N	32	1005 6845	PLATE/SDP	RJK502082-001V01	Common	1	AG	X
N	33	1006 0481	LENS/ST	CO-821STL	Common	1	AF	X
N	34	1005 6826	GRIP	RJK502073-001V01	Black	1	AR	X
N	34	1006 0494	GRIP	RJK502073-002V01	Silver	1	AR	X
N	35	1005 6827	GRIP	RJK502074-001V01	Common	1	AP	X
N	36	1006 1978	ASSY/SHUTTER	RJK502069*001V01TK	Common	1	BD	X
N	37	1006 0482	SWITCH UNIT	IB-DC-Y0536	Common	1	CA	B
N	38	1006 4431	PIN/STRAP	RJK502474-001V01	Common	1	AK	B
N	39	1006 0484	STRAP	RJK502004-001V01	Common	1	AF	B
N	40	1006 9272	CUSHIN	RJK502378-001V01	Common	1	AA	X
N	41	1005 6831	COVER/SENSOR	RJK502079-001V01	Common	1	AC	X
N	42	1005 6815	CASE/CENTER	RJK502006-001V01	Common	1	BX	X
N	43	1005 6829	COVER/FINDER	RJK502077-001V01	Common	1	AK	X
N	44	1006 0490	PANEL/LEAR	RJK502076-001V01	Black	1	BV	X
N	44	1006 0495	PANEL/LEAR	RJK502076-002V01	Silver	1	BV	X
N	45	1005 6818	COVER/CF	RJK502064-001V01	Black	1	AX	X
N	45	1006 0518	COVER/CF	RJK502064-002V01	Silver	1	AX	X
N	46	1005 6820	CF UNIT	RJK502066-001V01	Common	1	AE	X
N	47	1006 0512	SHAFT	RJK501999-001V01	Common	1	AI	X
N	48	1005 6830	COVER/SHAFT	RJK502078-001V01	Common	1	AE	X
N	49	1006 0513	SPRING	RJK502002-001V01	Common	1	AA	X
N	50	1006 0515	SPRING	RJK502096-001V01	Common	1	AA	X
N	51	1005 6819	LEVER/CF	RJK502065-001V01	Common	1	AP	X
N	52	1006 0557	LEVER/PIN/CF	RJK502278-001V01	Common	2	AB	X
N	53	1006 0564	CABLE/FLAT	RJK502041-001V01	Common	1	AD	X
-	54	3012 1624	TRANSFORMER/INVERTER	BLT1.8K713	Common	1	AR	X
-	55	6601 1700	PLATE/INSULATION	K4117-3	Common	3	AA	X
N	56	1006 0500	SPRING/BATTERY	RJK502031-001V01	Common	1	AC	X
N	57	1006 0509	LABEL/BATTERY	RJK502306-001V01	Common	1	AA	X
N	58	1006 0501	CLAMP PLATE/LED	RJK502032-001V01	Common	1	AD	X
N	59	1006 0508	SPRING/LED	RJK502100-001V01	Common	1	AB	X
-	60	1000 8862	UNIT/STROBE SENSOR	CO-716SU	Common	1	AX	B
N	61	1006 0503	SCREW/STAND	RJK502034-001V01	Common	1	AF	X
N	62	1006 0561	BUZZER	7BB-15-6A38	Common	1	AG	X
N	63	1005 6833	FLAME/A	RJK502081-001V01	Common	1	AN	X
N	64	1005 6847	FLAME/B	RJK502084-001V01	Common	1	AD	X
N	65	1005 6848	FLAME/C	RJK502085-001V01	Common	1	AD	X
N	66	1005 6846	FLAME/D	RJK502083-001V01	Common	1	AC	X
N	67	1006 0542	CASE/S	RJK502038-001V01	Common	1	AB	X
N	68	1006 2827	LCD	WK-TZB271-RG-B	Common	1	AI	C
N	69	1006 0543	CONNECTOR	RJK502338-001V01	Common	1	AA	X
N	70	1005 5233	STROBE UNIT	CO-821	Common	1	CE	A
N	71	1006 0539	HARNESS/BT	RJK502042-001V01	Common	1	AB	X
N	72	1006 0537	SPRING/BATTERY	RJK502029-001V01	Common	1	AB	X
N	73	1006 0538	SPRING/BATTERY	RJK502030-001V01	Common	1	AB	X
N	74	1006 0540	CHASSIS	RJK502036-001V01	Common	1	AH	X
N	75	1006 0468	TAPE/DOUBLE SIDE	RJK502368-001V01	Common	3	AA	X
N	76	1006 0492	TAPE/DOUBLE SIDE	RJK502144-001V01	Common	2	AA	X
N	77	1001 9241	TAPE/DOUBLE SIDE	K441932-4	Common	2	AA	X

Notes: N : New registration parts
Q : Quantity used per unit
R : Rank

N	Item	Code No.	Parts Name	Specification	Applicable	Q	Price Code	R
N	78	1006 0489	TAPE/DOUBLE SIDE	RJK502148-001V01	Common	2	AA	X
N	79	1006 0487	TAPE/DOUBLE SIDE	RJK502145-001V01	Common	1	AA	X
-	80	10019198	TAPE/DOUBLE SIDE	K441932-8	Common	1	AA	X
N	N1	1003 7904	NUT	CO-717-SYNC-2	Common	1	AC	X
N	S1	1006 0505	SCREW	M1.4X4 NI	Common	4	AA	X
N	S2	1006 0480	SCREW	M1.7X4.0NI	Common	5	AA	X
N	S3	1006 0566	SCREW	M1.7X4.0BK	Common	2	AA	X
-	S4	1002 5765	SCREW	BT3 1.7X4 BK	Common	11	AA	X
-	S5	1004 8636	SCREW	BT3 1.4X3.5 BK	Common	2	AA	X
N	S6	1006 0463	SCREW	BT3 1.7X3.0 NI	Common	6	AA	X
-	S7	1002 8704	SCREW	BT3 1.7X3.0 BK	Common	4	AA	X
-	S8	1001 2551	SCREW	BT3 1.7X3.5 BK	Common	2	AA	X
-	S9	5861 3690	SCREW	BT3 1.7X4.0 BK	Common	26	AA	X
N	S10	1006 0506	SCREW	BT3 1.7X5.0 NI	Common	6	AA	X
N	S11	5861 3691	SCREW	PS3 1.7X2.5 NI	Common	5	AA	X
N	S12	1006 0565	SCREW	ST3 1.7X4.0 ZNC	Common	3	AA	X
N	S13	1006 0460	SCREW	ST1 2.0X2.2 NI	Common	1	AA	X

ACCESSORY

N	Item	Code No.	Parts Name	Specification	Applicable	Q	Price Code	R
N		1006 4225	CODE/AC	CBL-K821-AC-EU	For EU except UK	1	AW	X
N		1006 4224	CODE/AC	CBL-K821-AC-JU	For US	1	AT	X
N		1006 4226	CODE/AC	CBL-K821-AC-UK	For UK	1	BM	X
N		1006 5589	CD-ROM	CK821DBA01R	For US	1	AJ	X
-		1006 4233	CD-ROM	CK821DCA01R	Except for US	1	AJ	X
N		1015 1507	CARD/CF (16MB)	HB289016C4XA	Except for US	1	DO	C
-		1006 4229	CABLE/USB	59204-9401	Common	1	AU	C
-		3816 0266	BATTERY/ALKALINE/LR6	LR6PA/2ST	Except for EU/US	2	AG	X
-		1001 2567	HOLDER/CAP	CH-K716	Common	1	AF	X
N		1006 4223	CHARGER/BATTERY	BC-2H-WW	For EU/US	1	CS	X
N		1006 4227	STRAP	ST-K821	Common	1	AV	X
N		1000 6297	NICKEL BATTERY	NP-H3-1600E-SA	For EU/US	4	AV	X
-		1014 8773	CODE/VIDEO	VC-K723-FC	Common	1	AL	X
N		1006 4218	CAP/LENS	LC-K821	Common	1	AG	C

Notes: N : New registration parts
Q : Quantity used per unit
R : Rank

N	Item	Code No.	Parts Name	Specification	Applicable	Q	Price Code	R
	MAIN PCB							
-	C804	7740 6979	CAPACITOR	PAS614L-VL3	Common	1	AK	X
-	CN390	3501 9226	CONNECTOR	52559-2692	Common	1	AE	X
-	CN480	1002 3278	CONNECTOR	55575-5026	Common	1	BR	X
N	CN485	1006 0435	CONNECTOR	SM02B-SSR-H-TB	Common	1	AB	X
-	CN490	3502 1410	CONNECTOR	52745-2090	Common	1	AC	X
-	CN600	7930 0479	CONNECTOR	AXK6S40545P	Common	1	AI	X
N	CN601	3502 2585	CONNECTOR	BM02B-SRSS-TB	Common	1	AB	X
-	CN610	1001 5291	CONNECTOR	52745-0490	Common	1	AA	X
N	CN701	1005 6835	CONNECTOR	54037-0207	Common	1	AF	X
N	CN702	1005 6814	CONNECTOR	AXK640345J	Common	1	AJ	X
-	D100	2390 2506	DIODE	RB060L-40-TE25	Common	1	AD	X
-	D113	2390 1876	DIODE/CHIP	RB161L-40TE25	Common	1	AB	X
-	D160	7101 1194	DIODE	MA111(TX)	Common	1	AA	X
-	D161	2390 1379	DIODE/SHOTTKY	MA729-(TX)	Common	1	AB	X
-	D162	7101 1194	DIODE	MA111(TX)	Common	1	AA	X
-	D163	7101 1194	DIODE	MA111(TX)	Common	1	AA	X
-	D390	2390 1379	DIODE/SHOTTKY	MA729-(TX)	Common	1	AB	X
-	D490	2390 1379	DIODE/SHOTTKY	MA729-(TX)	Common	1	AB	X
-	D491	2390 1379	DIODE/SHOTTKY	MA729-(TX)	Common	1	AB	X
-	D602	2390 3100	DIODE/ZENER	02DZ13-Y(TPH3)	Common	1	AA	X
-	D611	2390 3102	DIODE/ZENER	F1C2300TP	Common	1	AD	X
-	D612	2390 3101	DIODE/ZENER	02DZ8.2-Y(TPH3)	Common	1	AA	X
N	FU102	1005 6873	FUSE	FCC16132ABTP	Common	1	AA	A
N	FU103	1005 6872	FUSE	FCC16102ABTP	Common	1	AA	A
N	FU104	1005 6874	FUSE	FCC16202ABTP	Common	1	AA	A
-	IC140	2105 6479	IC	RN5RL33AA-TR	Common	1	AC	X
-	IC405	2105 6244	IC/CMOS	TC7S32FU(TE85L)	Common	1	AC	X
-	IC457	2105 3521	IC/CMOS	TC7S08FU-TE85L	Common	1	AB	X
-	IC490	2105 6490	IC	TK15405MTL	Common	1	AH	X
-	IC491	2105 5712	IC	TC7S04FU(TE85L)	Common	1	AB	X
-	IC612	2105 6394	IC/CMOS	TC7SET08FU-TE85L	Common	1	AB	X
-	IC620	2105 4158	COMPARATOR	TA75S393F(TE85L)	Common	1	AC	X
-	Q100	2253 0133	TRANSISTOR/CHIP	2SD1819A-R(TX)	Common	1	AA	X
-	Q110	2254 0571	FET	SI3443DV-T1	Common	1	AE	X
-	Q115	2254 0571	FET	SI3443DV-T1	Common	1	AE	X
-	Q152	2259 2715	TRANSISTOR/DIGITAL	DTC144EETL	Common	1	AA	X
-	Q161	2259 2715	TRANSISTOR/DIGITAL	DTC144EETL	Common	1	AA	X
-	Q424	2259 2731	TRANSISTOR/DIGITAL	DTA114EE-TL	Common	1	AA	X
-	Q425	2253 0133	TRANSISTOR/CHIP	2SD1819A-R(TX)	Common	1	AA	X
-	Q426	2259 2731	TRANSISTOR/DIGITAL	DTA114EE-TL	Common	1	AA	X
-	Q450	2259 2715	TRANSISTOR/DIGITAL	DTC144EETL	Common	1	AA	X
-	Q481	2259 2715	TRANSISTOR/DIGITAL	DTC144EETL	Common	1	AA	X
-	Q490	2259 2731	TRANSISTOR/DIGITAL	DTA114EE-TL	Common	1	AA	X
-	Q491	7911 3830	FET	2SJ347(TE85L)	Common	1	AA	X
-	Q492	2795 8150	FET/CHIP	2SK2035(TE85L)	Common	1	AA	X
-	Q622	2795 8150	FET/CHIP	2SK2035(TE85L)	Common	1	AA	X
-	Q720	7101 5791	TRANSISTOR/CHIP	DTA144EETL	Common	1	AA	X
-	Q721	7101 5791	TRANSISTOR/CHIP	DTA144EETL	Common	1	AA	X

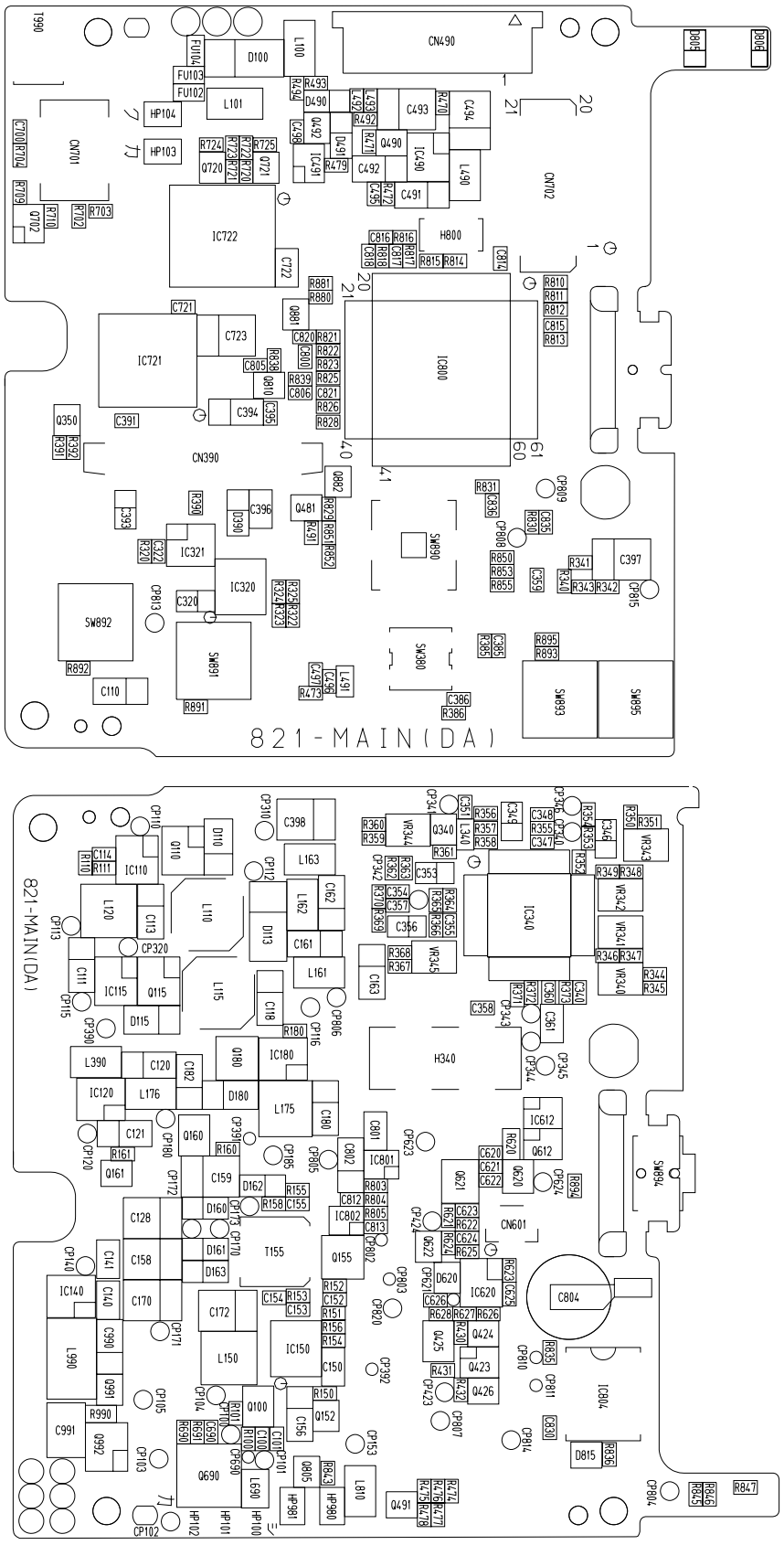
Notes: N : New registration parts
Q : Quantity used per unit
R : Rank

N	Item	Code No.	Parts Name	Specification	Applicable	Q	Price Code	R
-	Q805	2259 2745	TRANSISTOR/DIGITAL	DTC143EETL	Common	1	AA	X
-	Q810	2259 2715	TRANSISTOR/DIGITAL	DTC144EETL	Common	1	AA	X
-	Q881	2259 2745	TRANSISTOR/DIGITAL	DTC143EETL	Common	1	AA	X
-	Q882	2259 2715	TRANSISTOR/DIGITAL	DTC144EETL	Common	1	AA	X
-	Q991	2259 2744	TRANSISTOR/DIGITAL	DTA143EETL	Common	1	AA	X
-	Q992	2259 2789	TRANSISTOR/ARRAY	IMX17T110	Common	1	AA	X
-	SW380	1004 8661	SWITCH	SPSE22	Common	1	AH	C
N	SW810	1005 6857	SWITCH/DETECTOR	ESE24MH1T	Common	1	AD	C
-	SW830	1001 4578	SWITCH/DETECTOR	TSW-3D-T50	Common	1	AC	C
N	SW890	1006 0433	SWITCH	EVQWHE50K	Common	1	AN	C
N	SW891	1005 6859	SWITCH	EVQPLHA15	Common	1	AB	C
N	SW892	1005 6859	SWITCH	EVQPLHA15	Common	1	AB	C
N	SW893	1005 6859	SWITCH	EVQPLHA15	Common	1	AB	C
N	SW894	1005 6860	SWITCH	EVQPUM02K	Common	1	AC	C
N	SW895	1005 6859	SWITCH	EVQPLHA15	Common	1	AB	C
N	T155	1005 6866	CONVERTER/DC-DC	CLQ52-02	Common	1	AE	X
N	T600	1001 9089	CONVERTER/DC-DC	CLQ122-01	Common	1	AP	X
-	VR340	2775 3464	RESISTOR/SEMIFIXED/CHIP	POZ2AN-1-203N-T00	Common	1	AA	X
-	VR341	7911 4200	VOLUME	POZ2AN-1-103N-T00	Common	1	AA	X
-	VR342	2775 3464	RESISTOR/SEMIFIXED/CHIP	POZ2AN-1-203N-T00	Common	1	AA	X
-	VR343	2775 3464	RESISTOR/SEMIFIXED/CHIP	POZ2AN-1-203N-T00	Common	1	AA	X
-	VR344	2775 3465	RESISTOR/SEMIFIXED/CHIP	POZ2AN-1-503N-T00	Common	1	AA	X
-	VR345	2775 3464	RESISTOR/SEMIFIXED/CHIP	POZ2AN-1-203N-T00	Common	1	AA	X
-	-	1006 0456	HARNESS/PW	RJK502048-001V01	Common	1	AB	X
N	-	1001 5294	UNIT/EJECT/CF	55364-0011	Common	1	AY	X
	CFSW PCB							
N	SW400	1005 6856	SWITCH/DETECTOR	ESE18RJ02	Common	1	AD	C
N	-	1006 0571	HARNESS/CF SWITCH	RJK502317-001V01	Common	1	AE	X
	CN PCB							
N	CN705	1005 6811	CONNECTOR	06FLH-RSM1-TB	Common	1	AB	X
N	CN706	1005 6812	CONNECTOR	16FLH-RSM1-TB	Common	1	AC	X
N	CN707	10056834	CONNECTOR	53794-0208	Common	1	AI	X
	JK PCB							
N	CN100	3502 2211	CONNECTOR	53309-1890	Common	1	AF	X
-	CN101	3501 8183	CONNECTOR	S2B-PH-SM3-TB	Common	1	AB	X
-	CN102	3502 2466	CONNECTOR	S3B-PH-SM3-TB	Common	1	AB	X
-	CN103	3502 2557	CONNECTOR	52559-0692	Common	1	AB	X
N	CN104	3502 2585	CONNECTOR	BM02B-SRSS-TB	Common	1	AB	X
-	JK190	1001 5273	JACK	HEC3604-010120	Common	1	AD	B
N	JK192	1005 6836	JACK	54819-0578	Common	1	AD	B
-	JK194	3501 8197	JACK/MINI	HSJ1169-019010	Common	1	AF	B
	KEY PCB							
N	CN860	3502 2508	CONNECTOR	52746-2090	Common	1	AD	X
N	CN861	3502 1438	CONNECTOR	52465-1891	Common	1	AF	X
N	SW860	1005 6858	SWITCH	EVQP1K05M	Common	1	AC	C
N	SW861	1005 6858	SWITCH	EVQP1K05M	Common	1	AC	C
N	SW862	1005 6858	SWITCH	EVQP1K05M	Common	1	AC	C
N	SW863	1005 6858	SWITCH	EVQP1K05M	Common	1	AC	C
	LED PCB							
N	-	1006 0558	HARNESS/LED	RJK502044-001V01	Common	1	AB	X

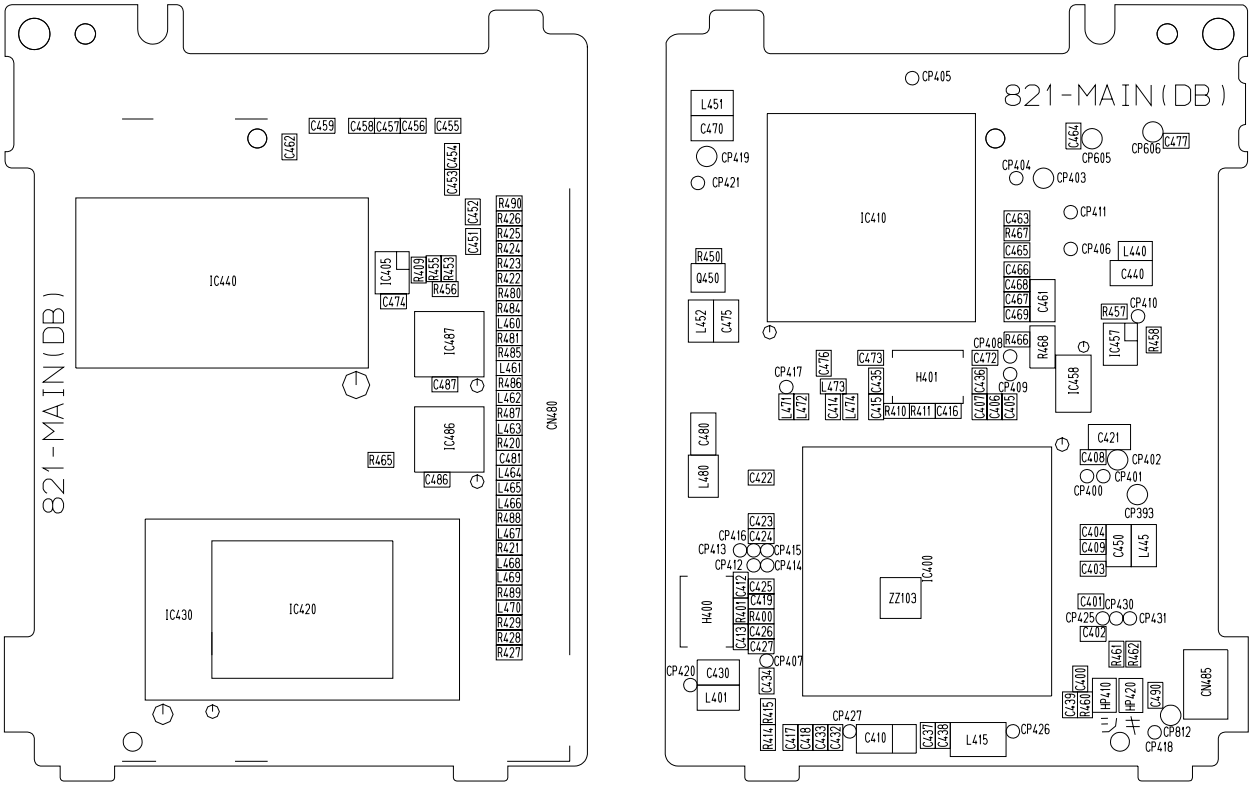
Notes: N : New registration parts
Q : Quantity used per unit
R : Rank

PRINTED CIRCUIT BOARDS

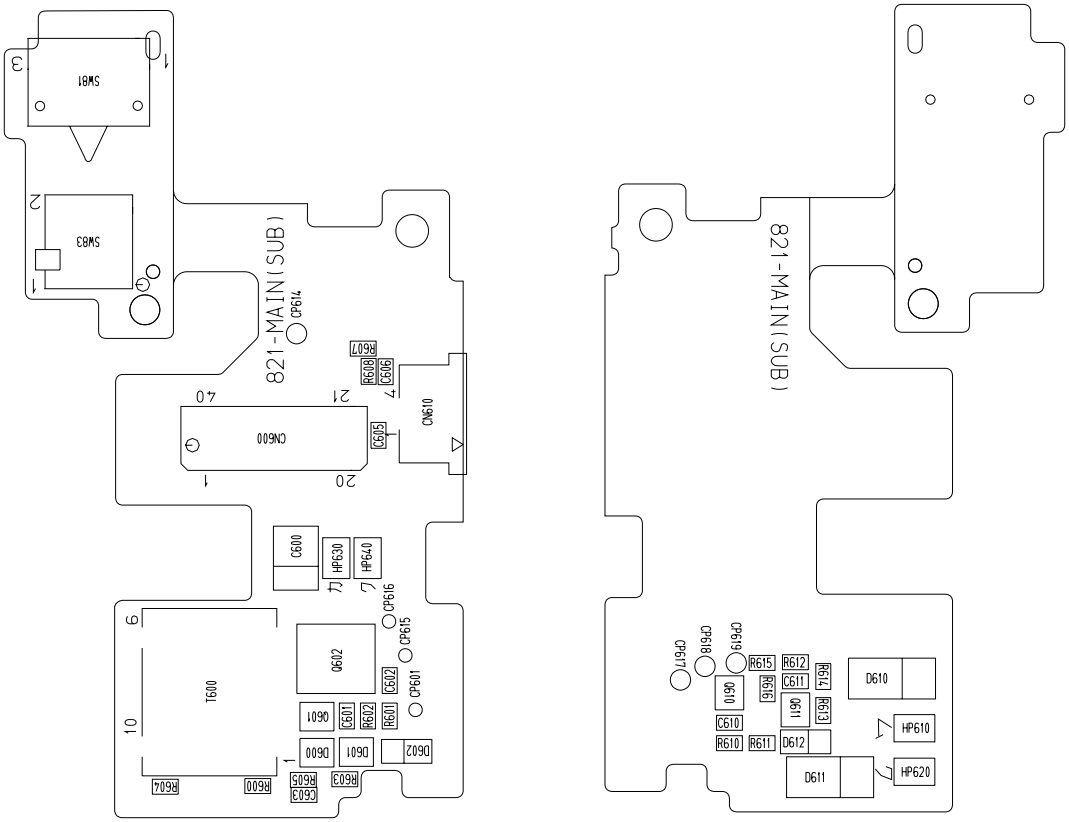
DA-PCB (PCB-821-MAIN-DA)



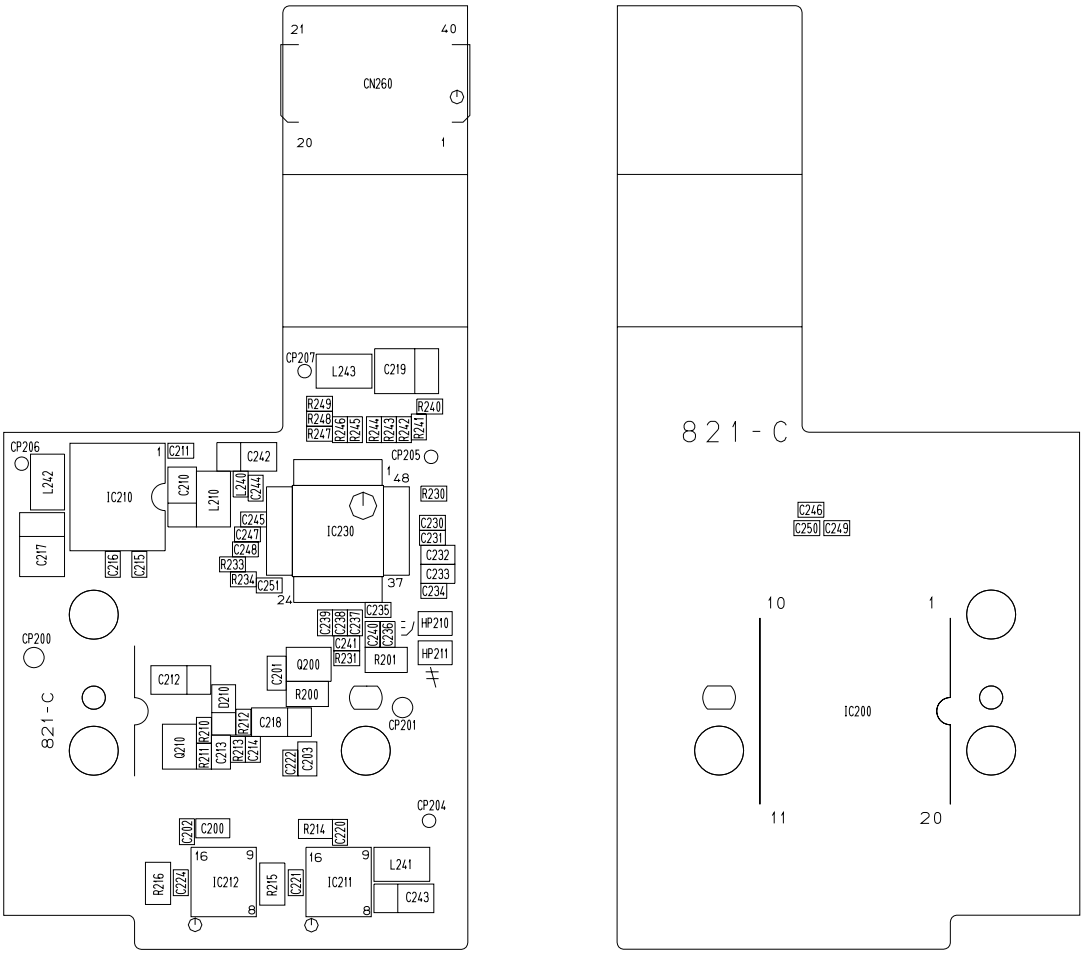
DB-PCB (PCB-821-MAIN-DB)



SUB-PCB (PCB-821-MAIN-SUB)

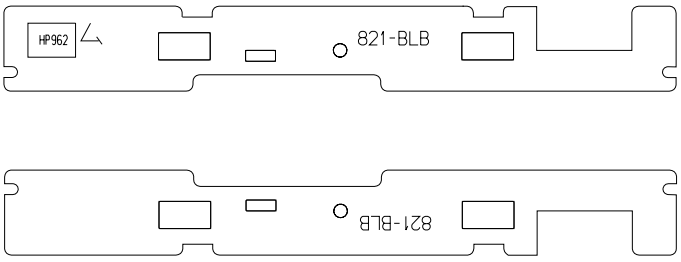


C-PCB (PCB-821-C)

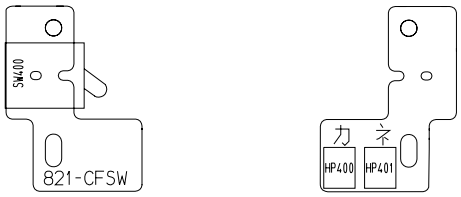


BLA-PCB (PCB-821-BLA)

BLB-PCB (PCB-821-BLB)

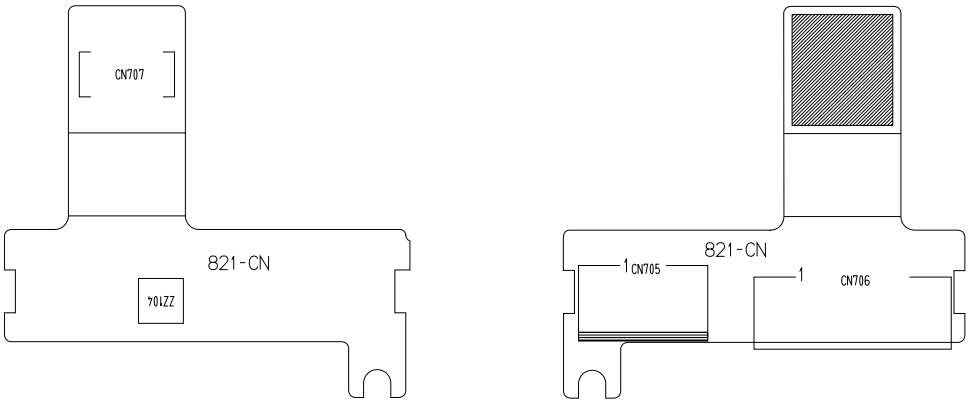


CFSW-PCB (PCB-821-CFSW)

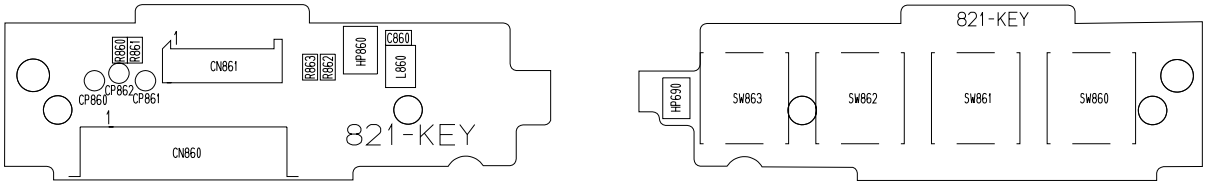


LED-PCB (PCB-821-LED)

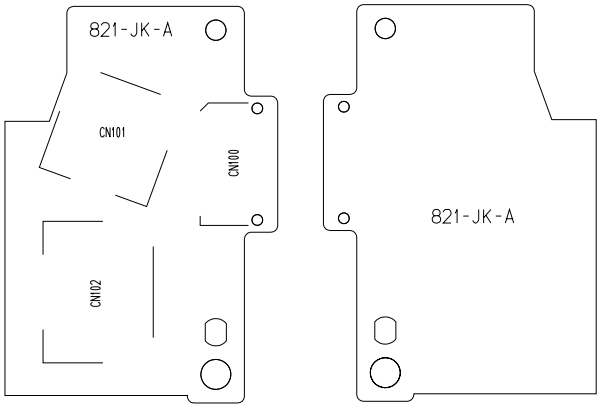
CN-PCB (PCB-821-CN)



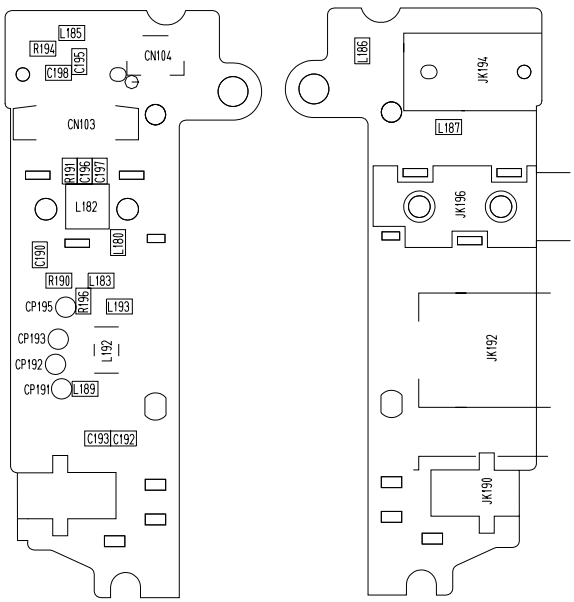
KEY-PCB (PCB-821-KEY)



JK-A-PCB (PCB-821-JK-A)

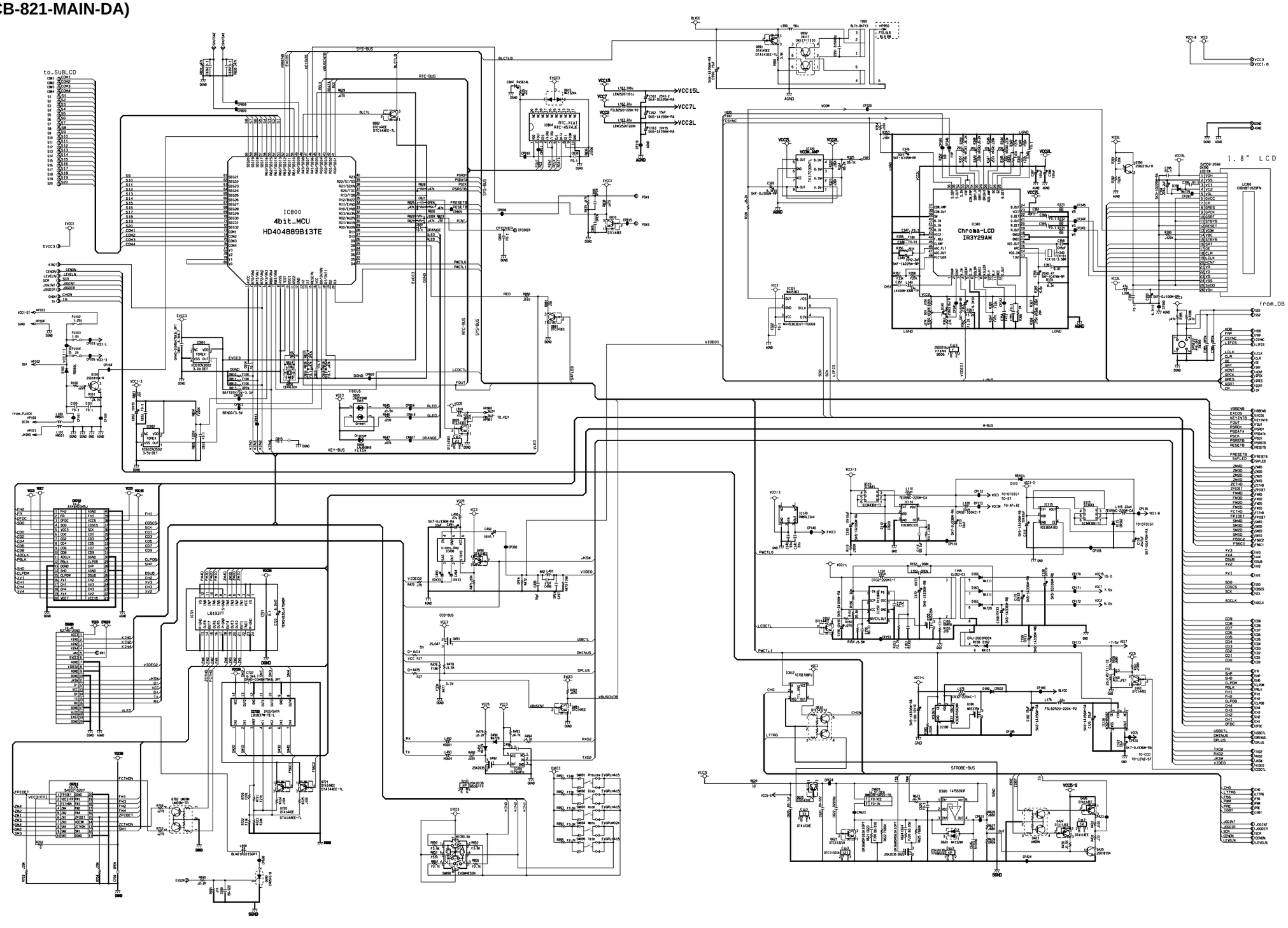


JK-B-PCB (PCB-821-JK-B)



SCHEMATIC DIAGRAMS

DA-PCB (PCB-821-MAIN-DA)



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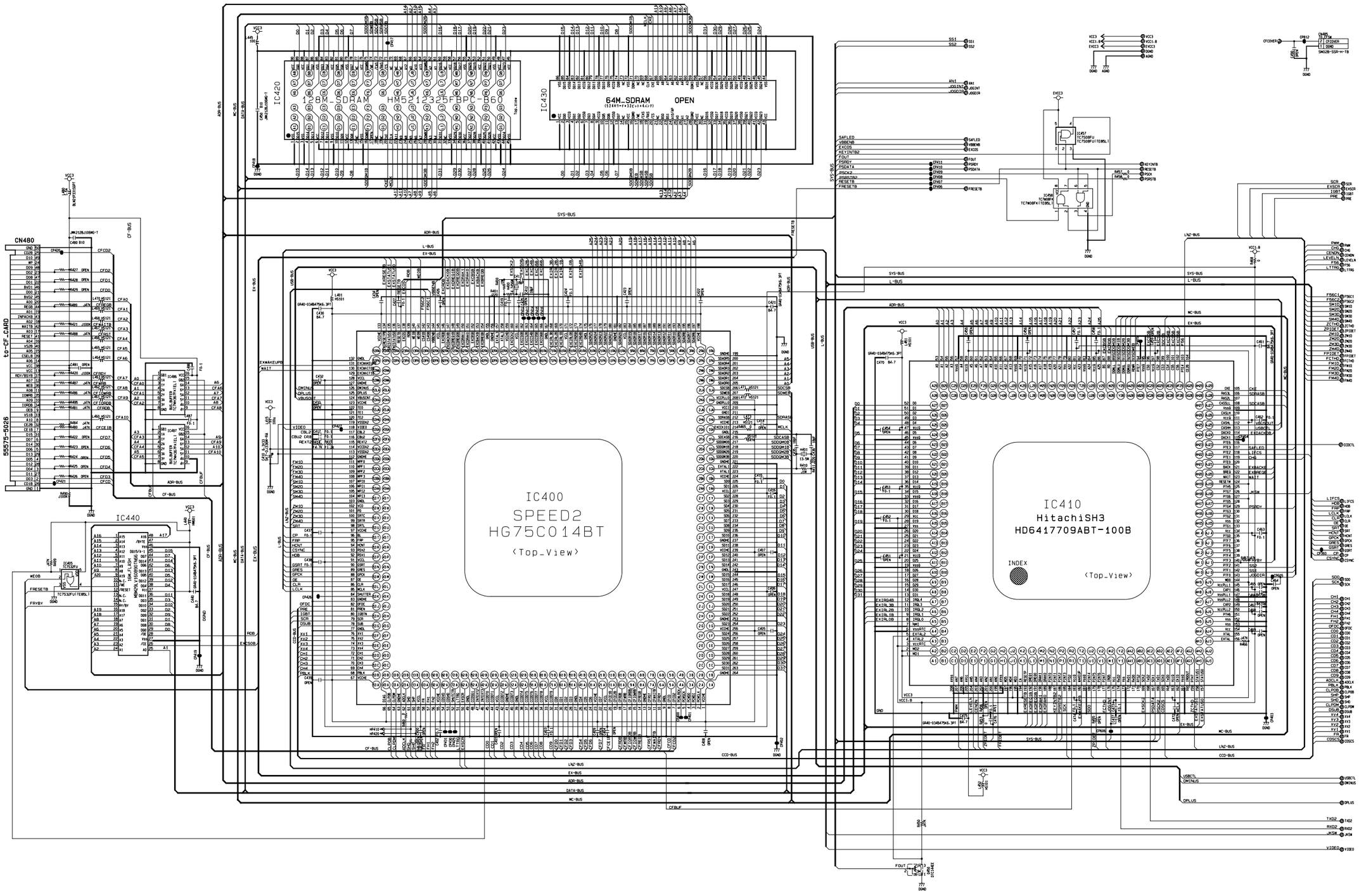
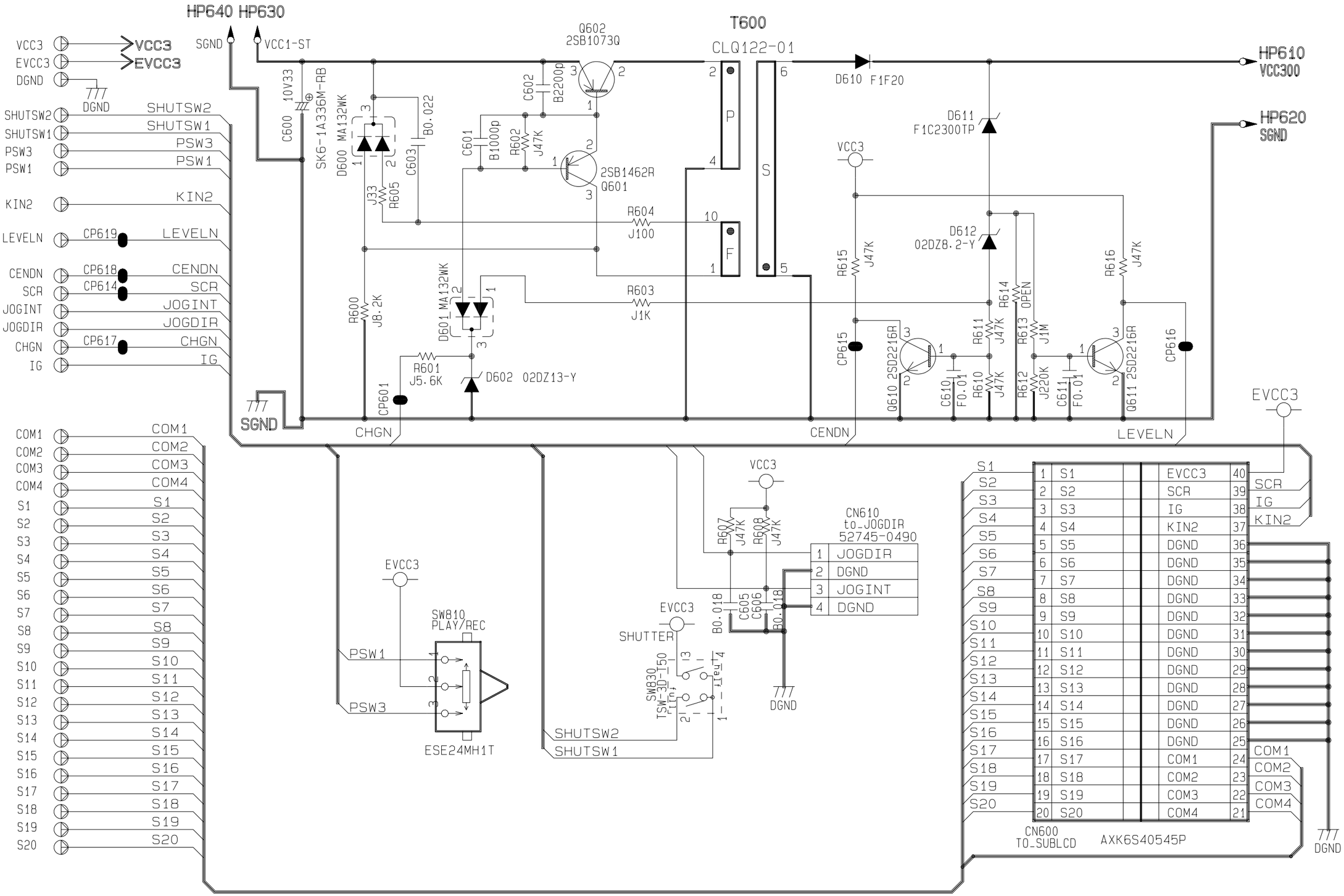
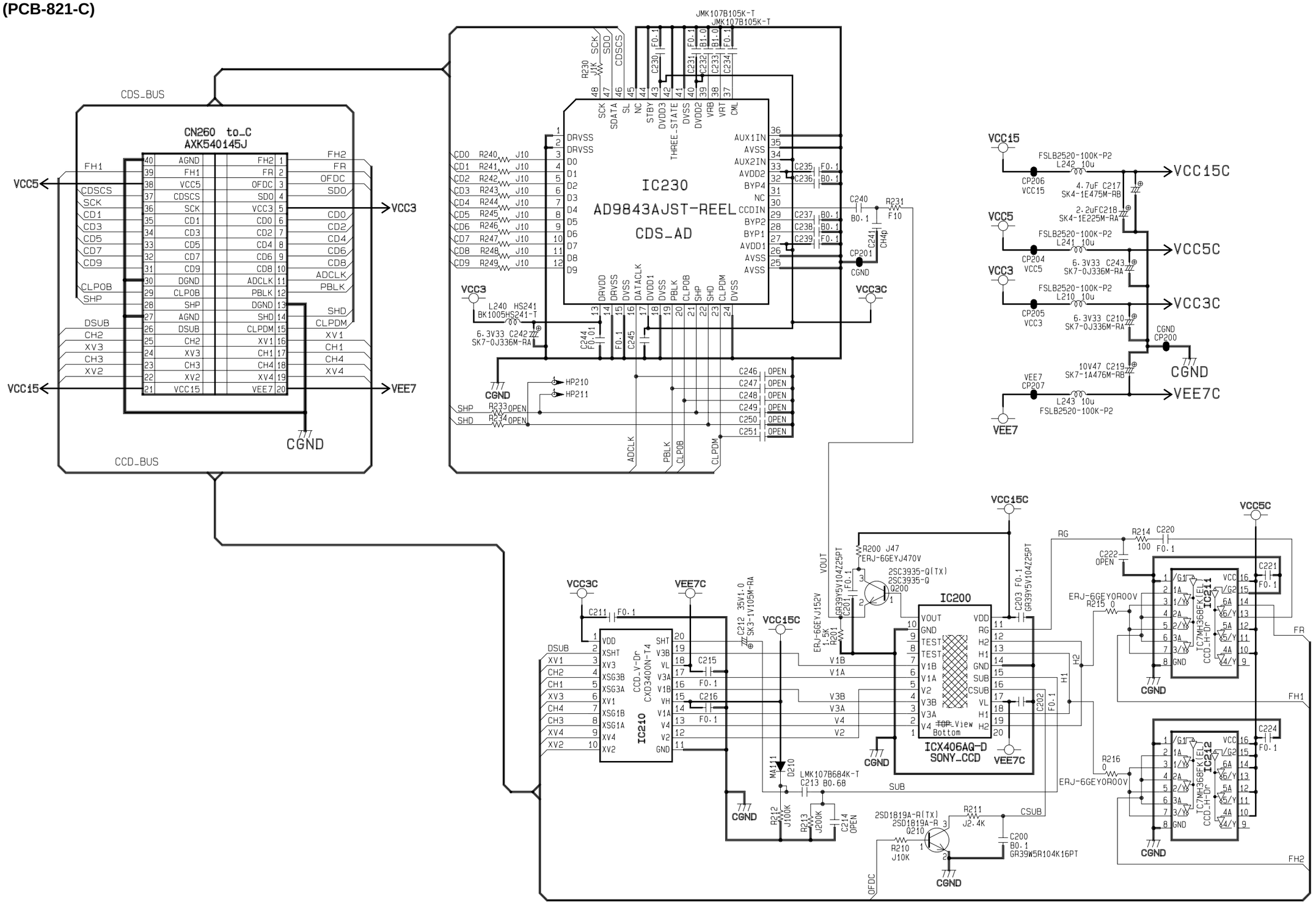


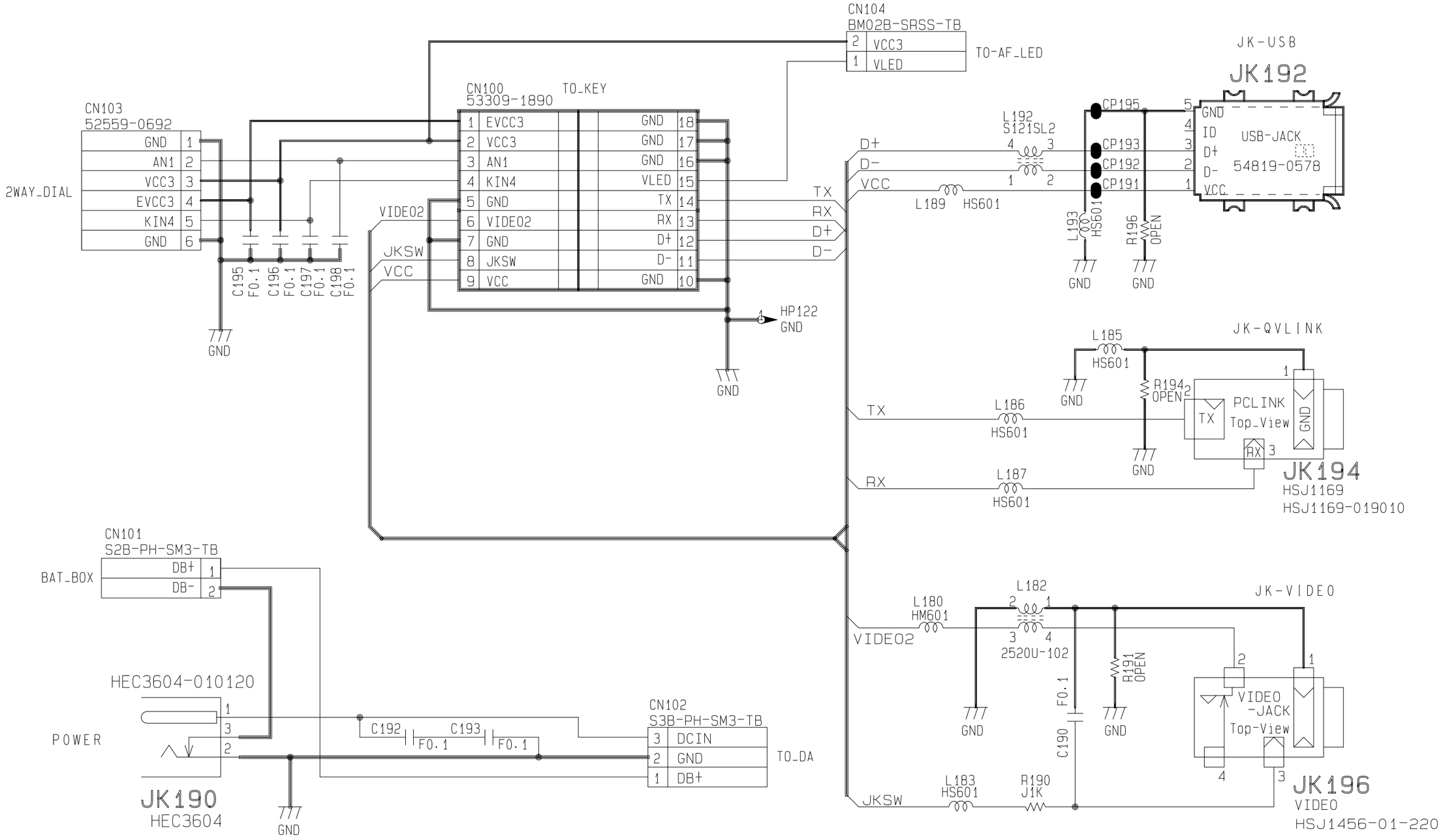
SUB-PCB (PCB-821-MAIN-SUB)



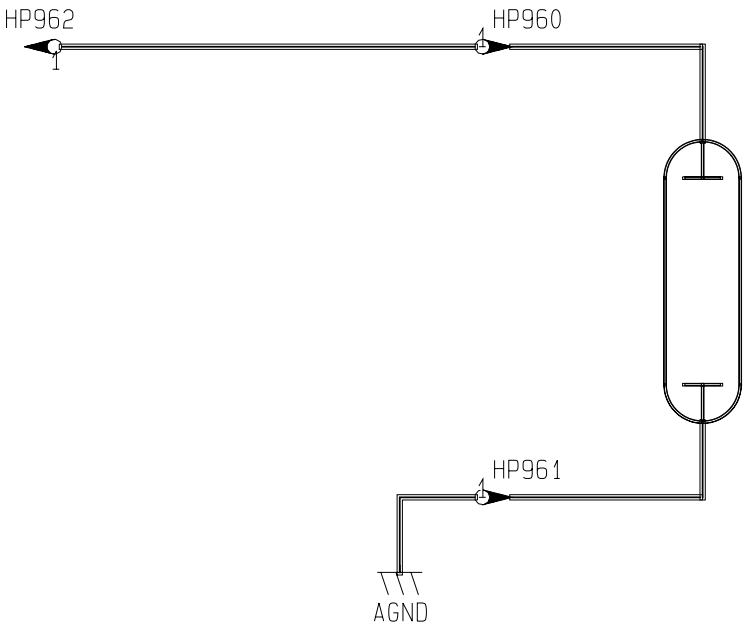
C-PCB (PCB-821-C)



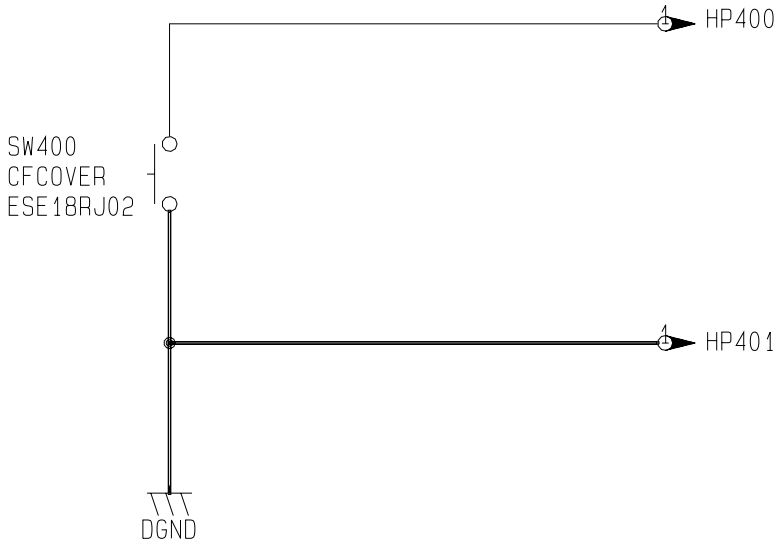
JK-PCB (PCB-821-JK)



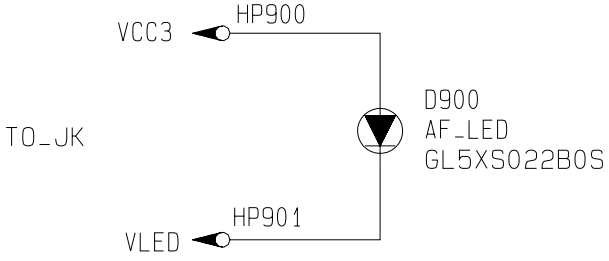
BL-PCB (PCB-821-BL)



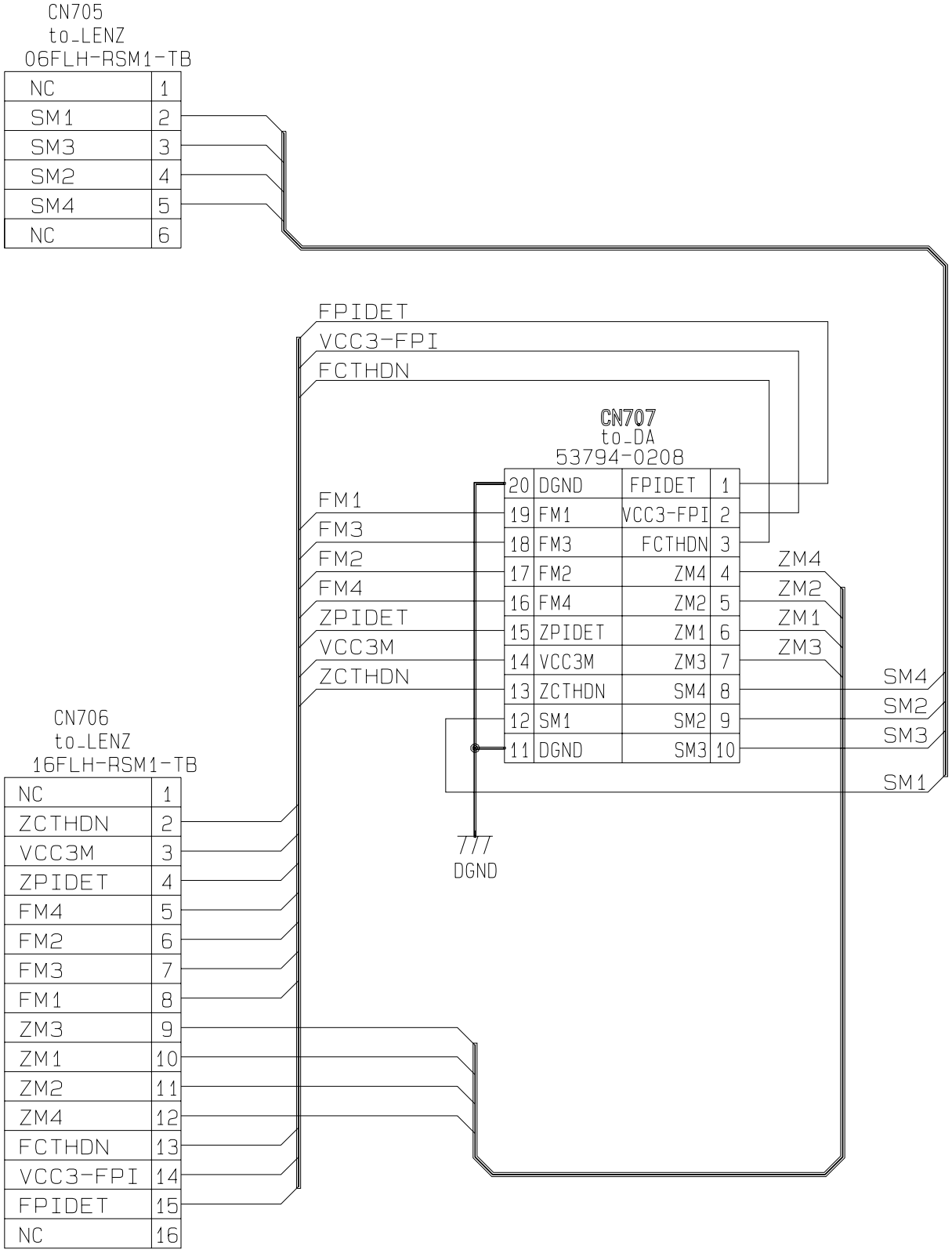
CFS-PCB (PCB-821-CFS)



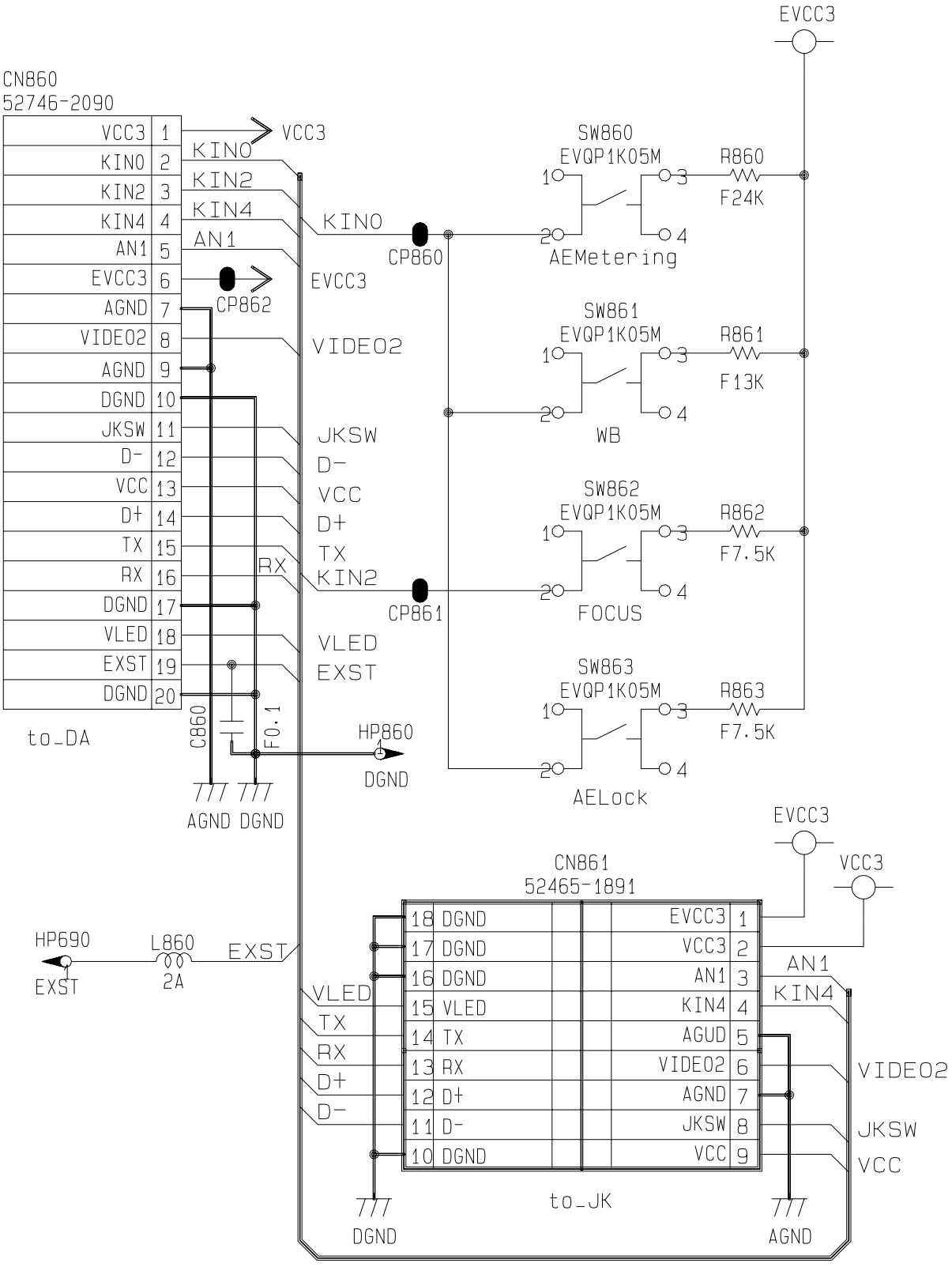
LED-PCB (PCB-821-LED)



CN-PCB (PCB-821-CN)



KEY-PCB (PCB-821-KEY)



Ver. 1 : Correction of page 34.

Ver. 2 : Correction of page 4, 11 - 17.

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